

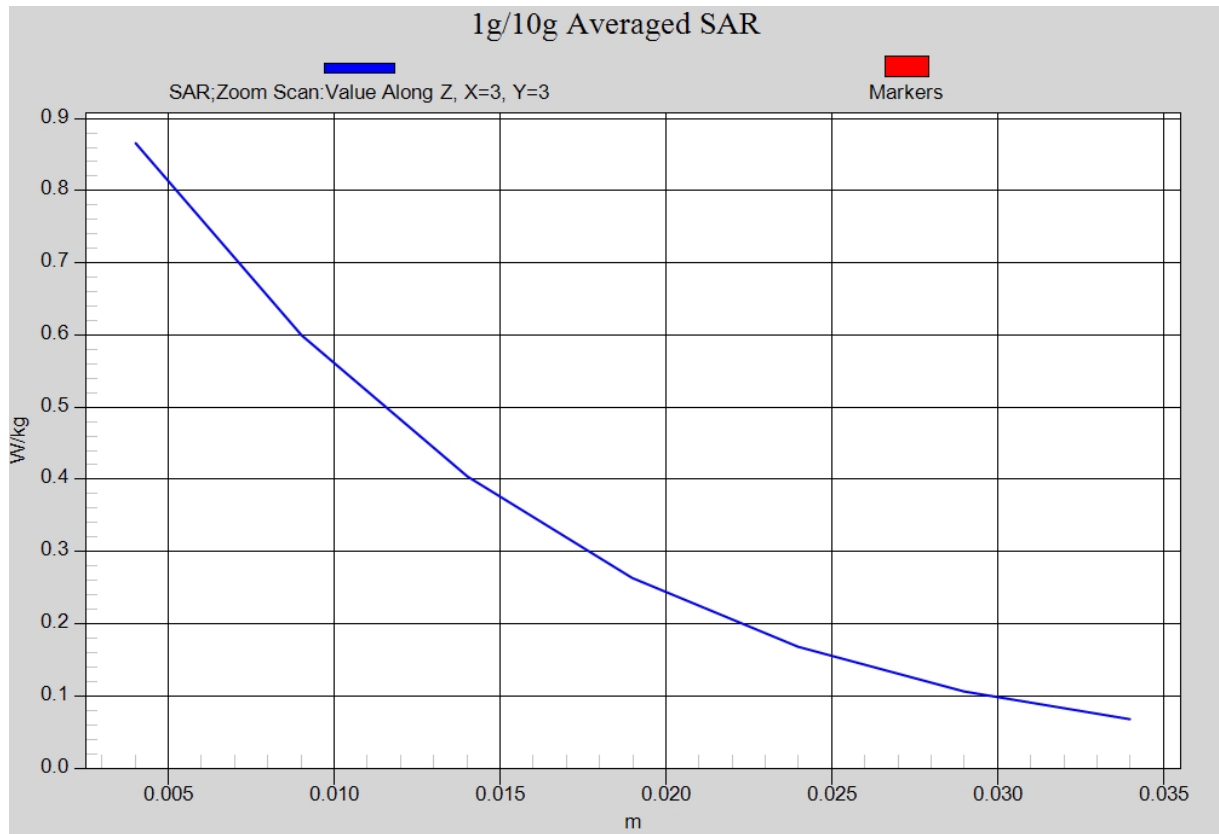


Fig. 14-1 Z-Scan at power reference point (LTE Band2 CH18900)

LTE Band2 Body Front Low with QPSK_20M_1RB_High – AP OFF

Date: 2013-11-12

Electronics: DAE4 Sn771

Medium: Body 1900 MHz

Medium parameters used: $f = 1860$ MHz; $\sigma = 1.526$ mho/m; $\epsilon_r = 54.217$; $\rho = 1000$ kg/m³

Ambient Temperature: 22.4°C Liquid Temperature: 21.9°C

Communication System: LTE Band4 Frequency: 1860 MHz Duty Cycle: 1:1

Probe: EX3DV4 - SN3846 ConvF(7.03, 7.03, 7.03)

Front Low/Area Scan (61x101x1): Interpolated grid: dx=1.000 mm, dy=1.000 mm

Maximum value of SAR (interpolated) = 1.03 W/kg

Front Low/Zoom Scan (7x7x7)/Cube 0: Measurement grid: dx=5mm, dy=5mm, dz=5mm

Reference Value = 8.574 V/m; Power Drift = 0.08 dB

Peak SAR (extrapolated) = 1.34 W/kg

SAR(1 g) = 0.912 W/kg; SAR(10 g) = 0.578 W/kg

Maximum value of SAR (measured) = 0.989 W/kg

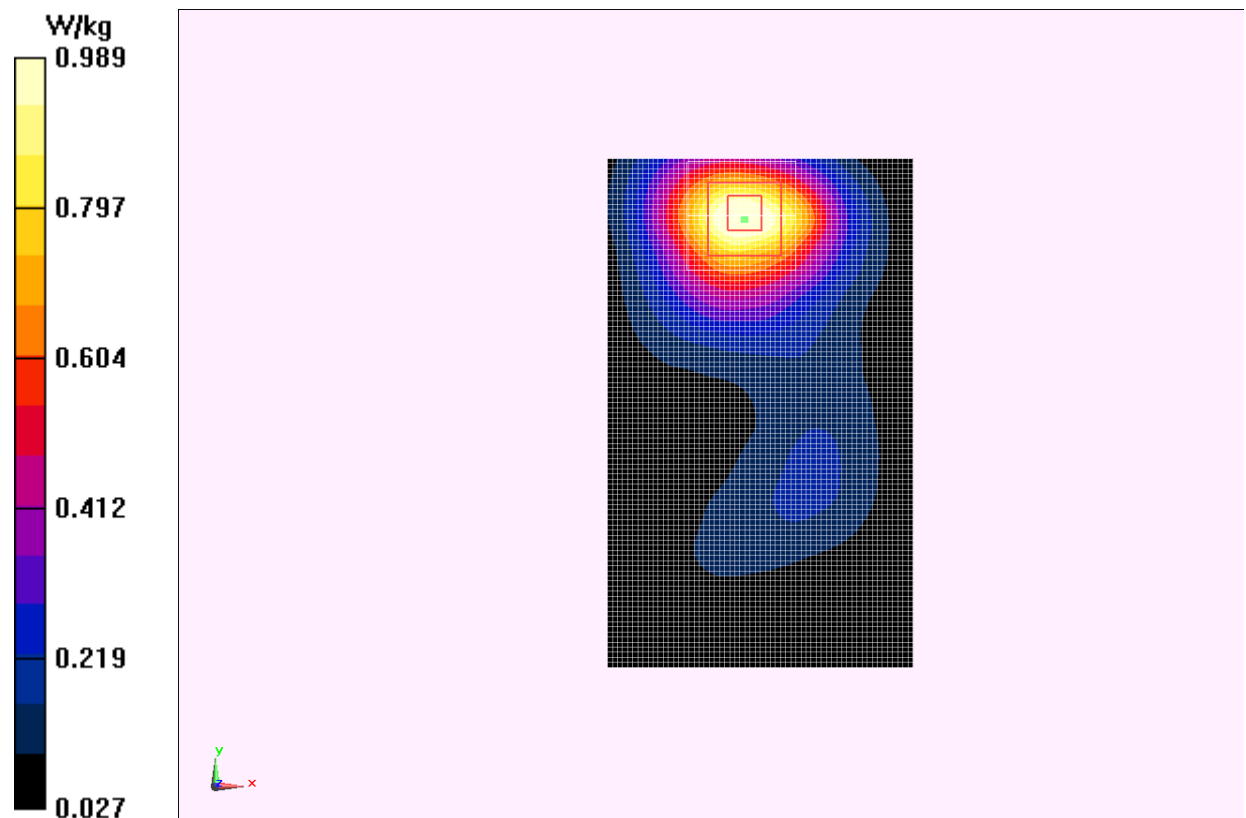


Fig.15 LTE Band2 CH18700

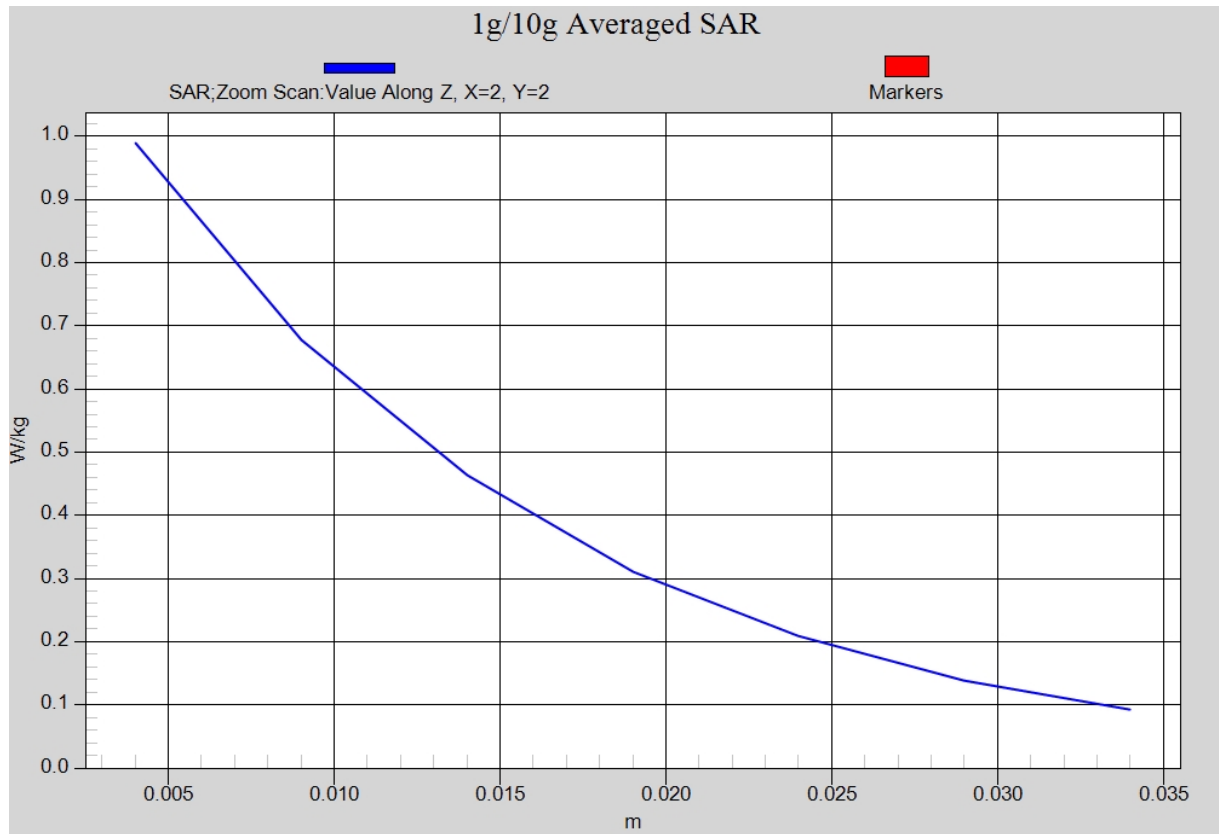


Fig. 15-1 Z-Scan at power reference point (LTE Band2 CH18700)

LTE Band2 Body Front Middle with QPSK_20M_1RB_High – AP ON

Date: 2013-11-12

Electronics: DAE4 Sn771

Medium: Body 1900 MHz

Medium parameters used: $f = 1880$ MHz; $\sigma = 1.545$ mho/m; $\epsilon_r = 54.126$; $\rho = 1000$ kg/m³

Ambient Temperature: 22.4°C Liquid Temperature: 21.9°C

Communication System: LTE Band4 Frequency: 1880 MHz Duty Cycle: 1:1

Probe: EX3DV4 - SN3846 ConvF(7.03, 7.03, 7.03)

Front Middle/Area Scan (61x101x1): Interpolated grid: dx=1.000 mm, dy=1.000 mm

Maximum value of SAR (interpolated) = 0.866 W/kg

Front Middle/Zoom Scan (7x7x7)/Cube 0: Measurement grid: dx=5mm, dy=5mm, dz=5mm

Reference Value = 8.784 V/m; Power Drift = 0.05 dB

Peak SAR (extrapolated) = 1.13 W/kg

SAR(1 g) = 0.772 W/kg; SAR(10 g) = 0.445 W/kg

Maximum value of SAR (measured) = 0.873 W/kg

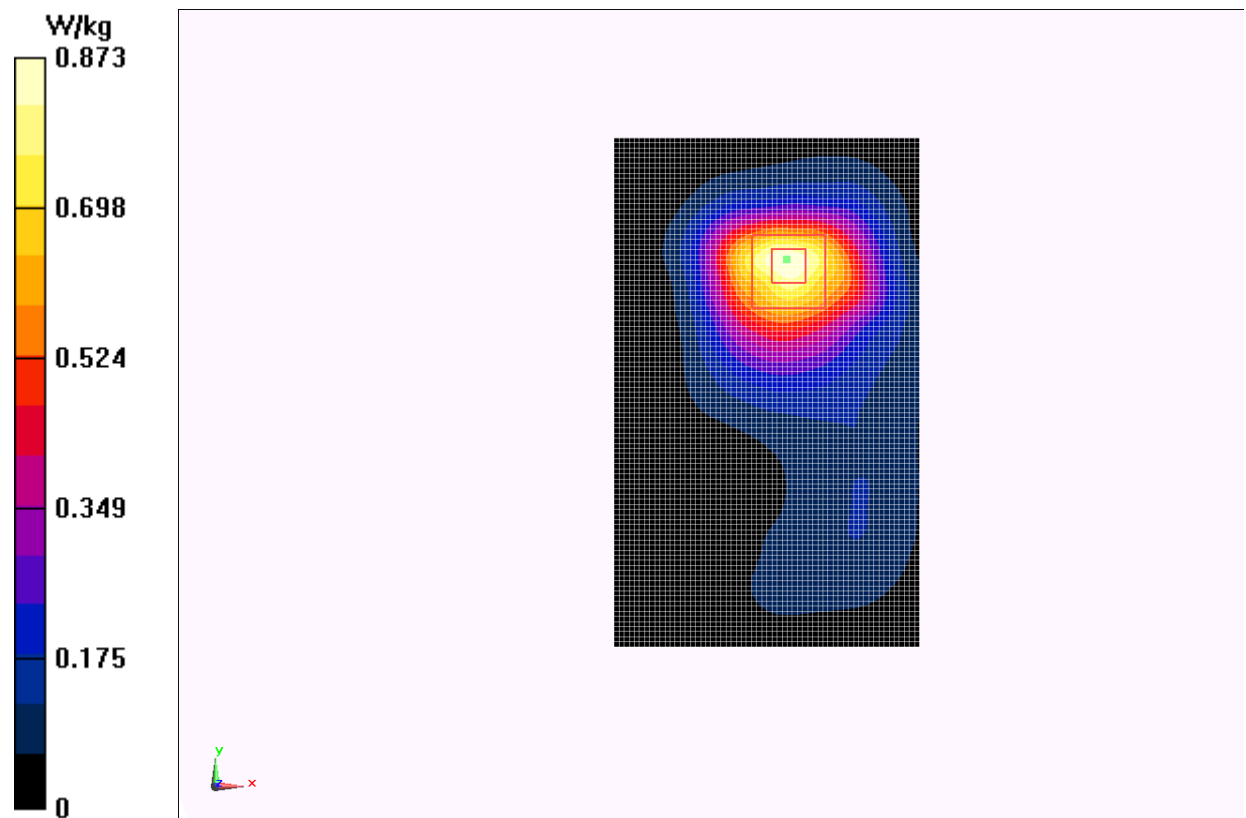


Fig.16 LTE Band2 CH18900

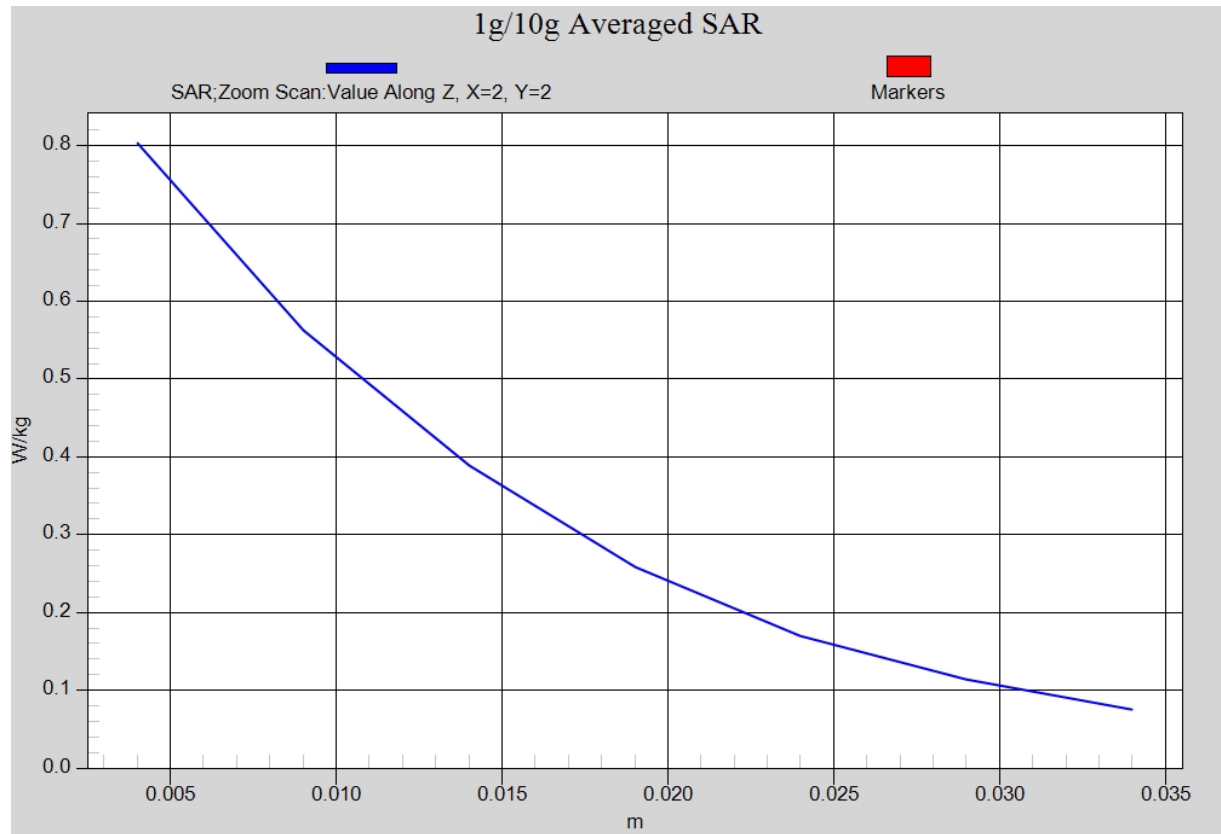


Fig. 16-1 Z-Scan at power reference point (LTE Band2 CH18900)

LTE Band4 Left Cheek Low with QPSK_20M_1RB_High – AP OFF

Date: 2013-11-11

Electronics: DAE4 Sn771

Medium: Head 1750 MHz

Medium parameters used: $f = 1720$ MHz; $\sigma = 1.362$ mho/m; $\epsilon_r = 40.761$; $\rho = 1000$ kg/m³

Ambient Temperature: 22.4°C Liquid Temperature: 21.9°C

Communication System: LTE Band4 Frequency: 1720 MHz Duty Cycle: 1:1

Probe: EX3DV4 - SN3846 ConvF(7.85, 7.85, 7.85)

Cheek Low/Area Scan (61x101x1): Interpolated grid: dx=1.000 mm, dy=1.000 mm

Maximum value of SAR (interpolated) = 0.945 W/kg

Cheek Low/Zoom Scan (7x7x7)/Cube 0: Measurement grid: dx=5mm, dy=5mm, dz=5mm

Reference Value = 12.684 V/m; Power Drift = 0.02 dB

Peak SAR (extrapolated) = 1.20 W/kg

SAR(1 g) = 0.838 W/kg; SAR(10 g) = 0.550 W/kg

Maximum value of SAR (measured) = 0.900 W/kg

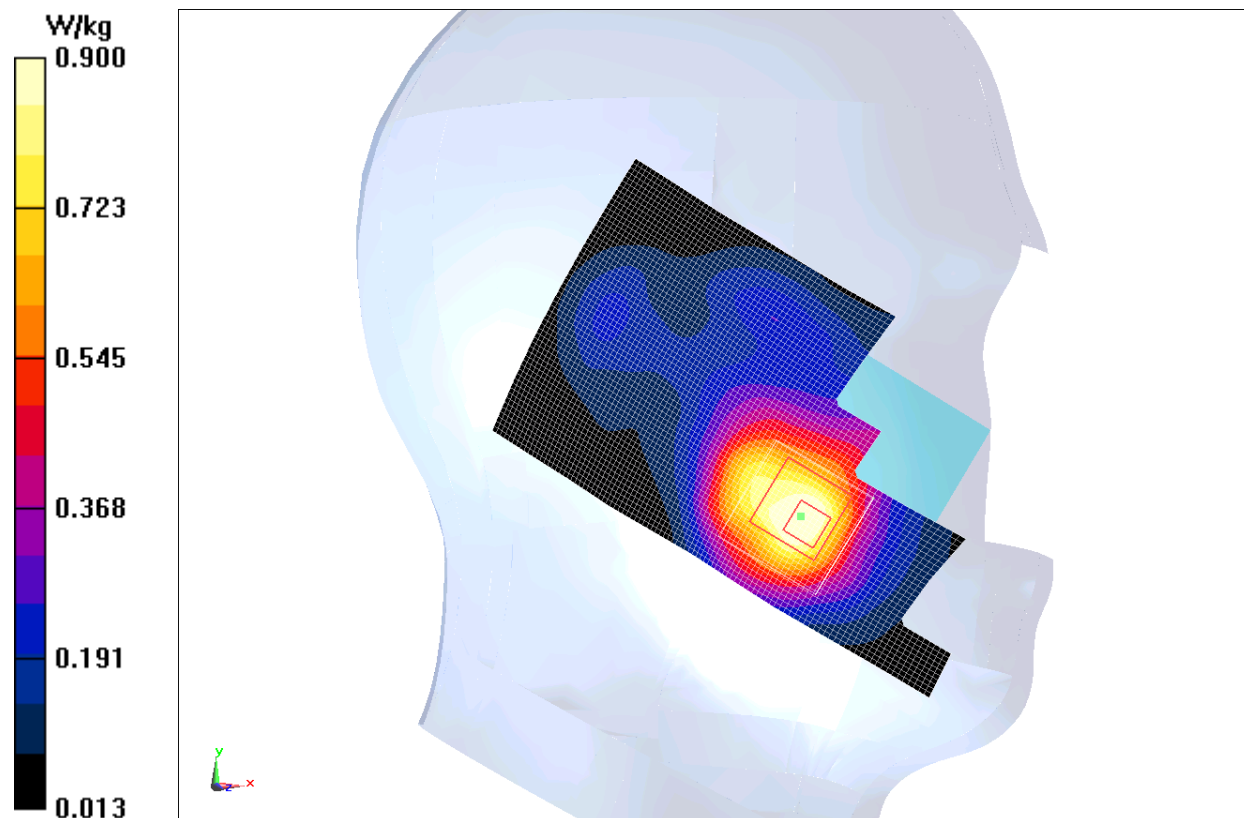


Fig.17 LTE Band4 CH20050

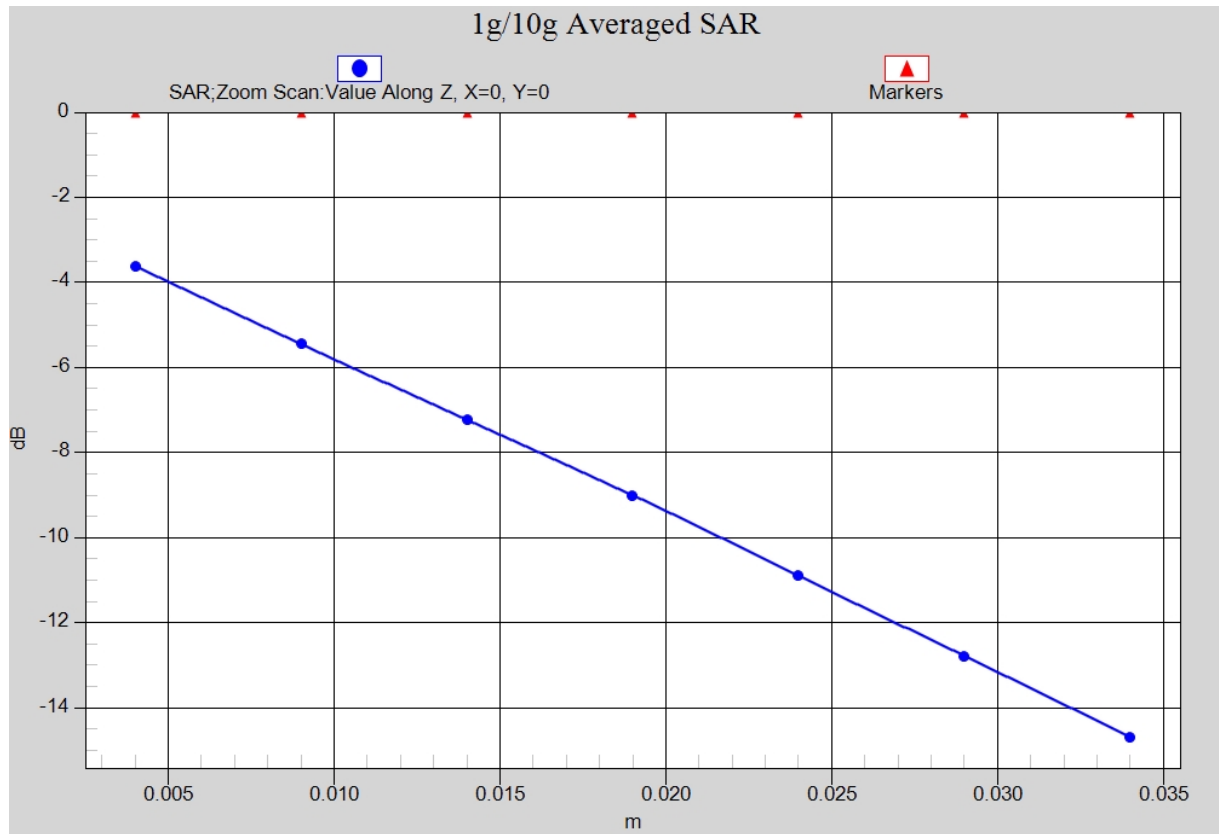


Fig. 17-1 Z-Scan at power reference point (LTE Band4 CH20050)

LTE Band4 Body Rear High with QPSK_20M_1RB_High – AP OFF

Date: 2013-11-11

Electronics: DAE4 Sn771

Medium: Body 1750 MHz

Medium parameters used: $f = 1745$ MHz; $\sigma = 1.51$ mho/m; $\epsilon_r = 52.371$; $\rho = 1000$ kg/m³

Ambient Temperature: 22.4°C Liquid Temperature: 21.9°C

Communication System: LTE Band4 Frequency: 1745 MHz Duty Cycle: 1:1

Probe: EX3DV4 - SN3846 ConvF(7.56, 7.56, 7.56)

Rear High/Area Scan (61x101x1): Interpolated grid: dx=1.000 mm, dy=1.000 mm

Maximum value of SAR (interpolated) = 0.822 W/kg

Rear High/Zoom Scan (7x7x7)/Cube 0: Measurement grid: dx=5mm, dy=5mm, dz=5mm

Reference Value = 13.104 V/m; Power Drift = 0.01 dB

Peak SAR (extrapolated) = 0.995 W/kg

SAR(1 g) = 0.694 W/kg; SAR(10 g) = 0.448 W/kg

Maximum value of SAR (measured) = 0.782 W/kg

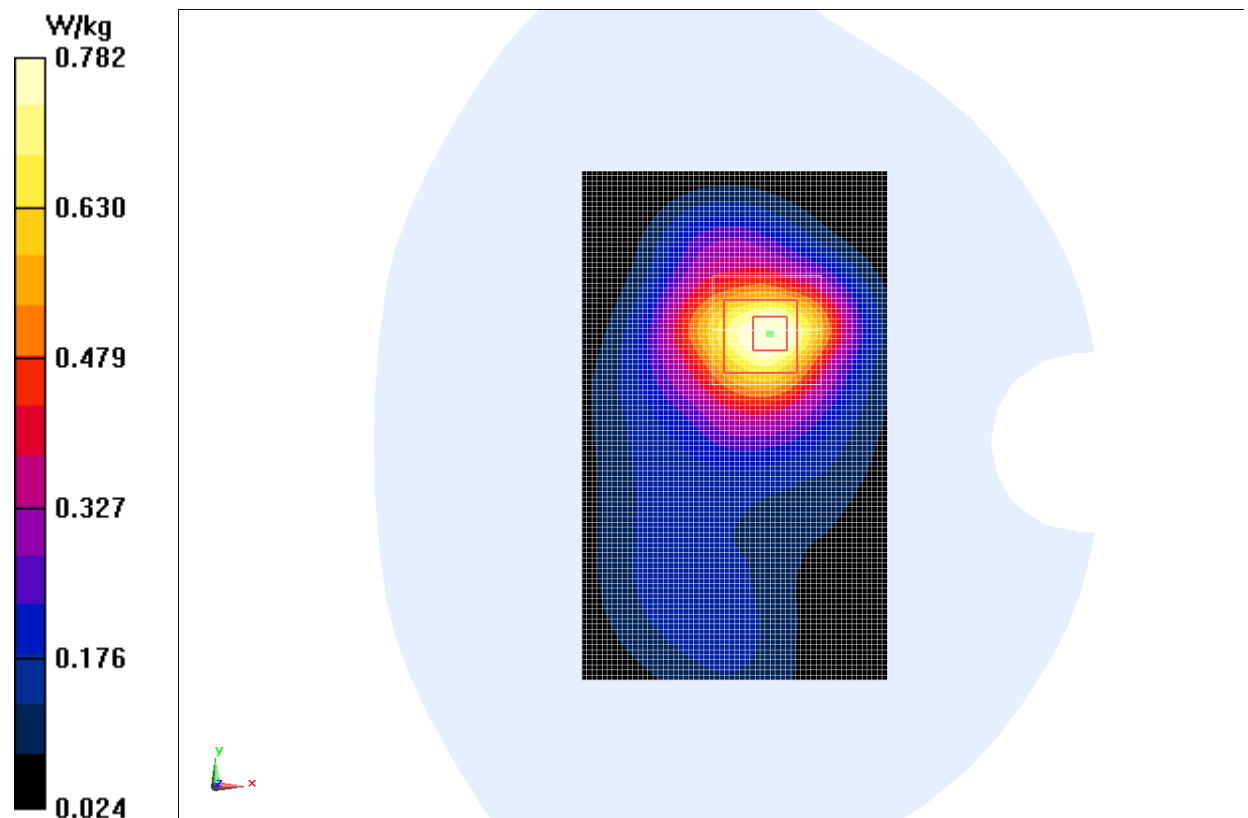


Fig.18 LTE Band4 CH20300

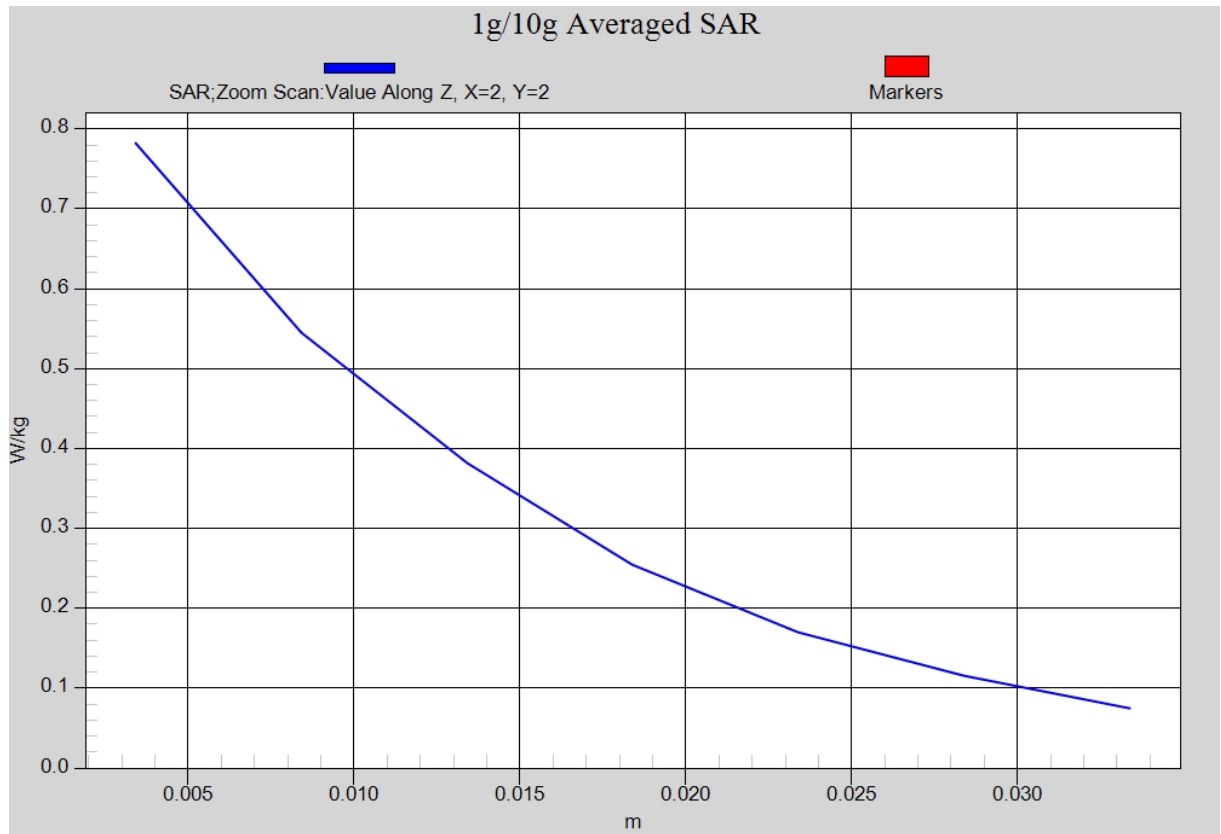


Fig. 18-1 Z-Scan at power reference point (LTE Band4 CH20300)

LTE Band4 Body Front High with QPSK_20M_1RB_High – AP ON

Date: 2013-11-11

Electronics: DAE4 Sn771

Medium: Body 1750 MHz

Medium parameters used: $f = 1745$ MHz; $\sigma = 1.51$ mho/m; $\epsilon_r = 52.371$; $\rho = 1000$ kg/m³

Ambient Temperature: 22.4°C Liquid Temperature: 21.9°C

Communication System: LTE Band4 Frequency: 1745 MHz Duty Cycle: 1:1

Probe: EX3DV4 - SN3846 ConvF(7.56, 7.56, 7.56)

Front High/Area Scan (61x101x1): Interpolated grid: dx=1.000 mm, dy=1.000 mm

Maximum value of SAR (interpolated) = 0.908 W/kg

Front High/Zoom Scan (7x7x7)/Cube 0: Measurement grid: dx=5mm, dy=5mm, dz=5mm

Reference Value = 11.793 V/m; Power Drift = -0.19 dB

Peak SAR (extrapolated) = 1.18 W/kg

SAR(1 g) = 0.817 W/kg; SAR(10 g) = 0.513 W/kg

Maximum value of SAR (measured) = 0.916 W/kg

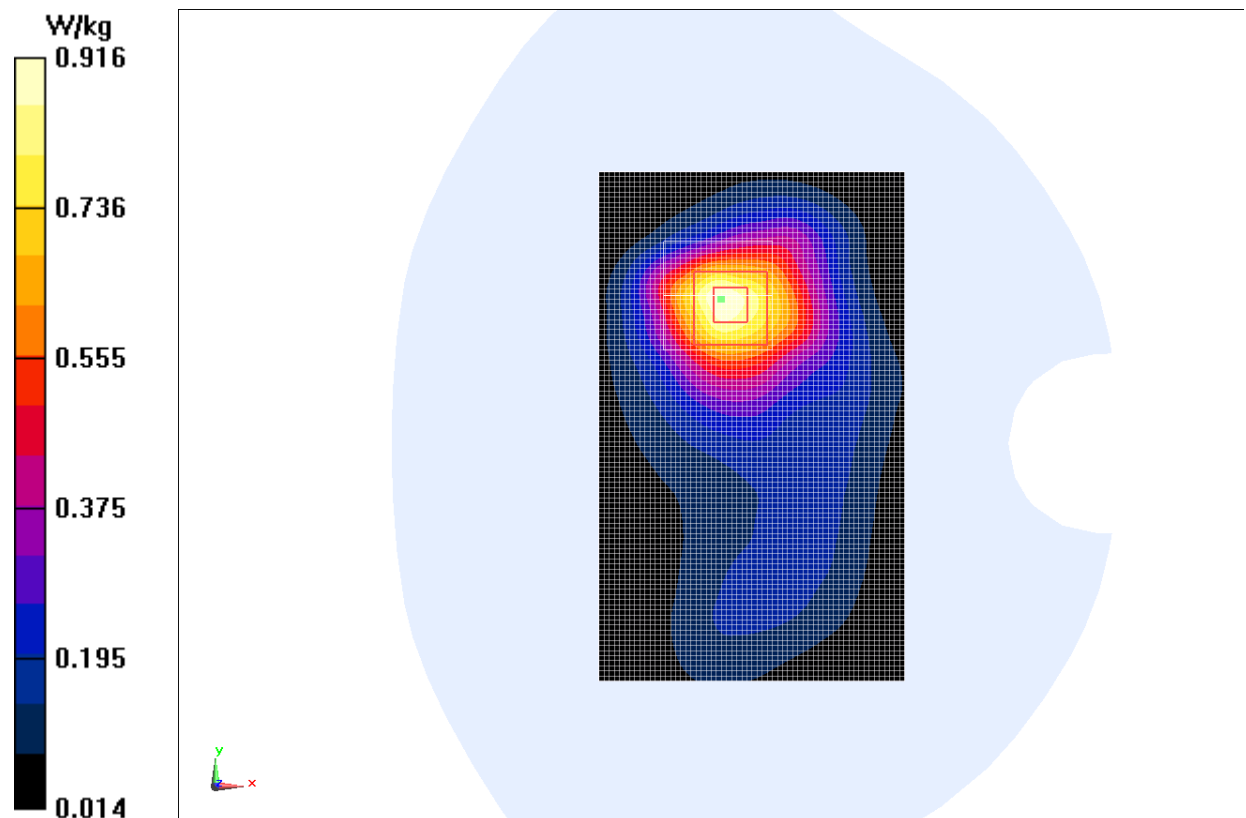


Fig.19 LTE Band4 CH20300

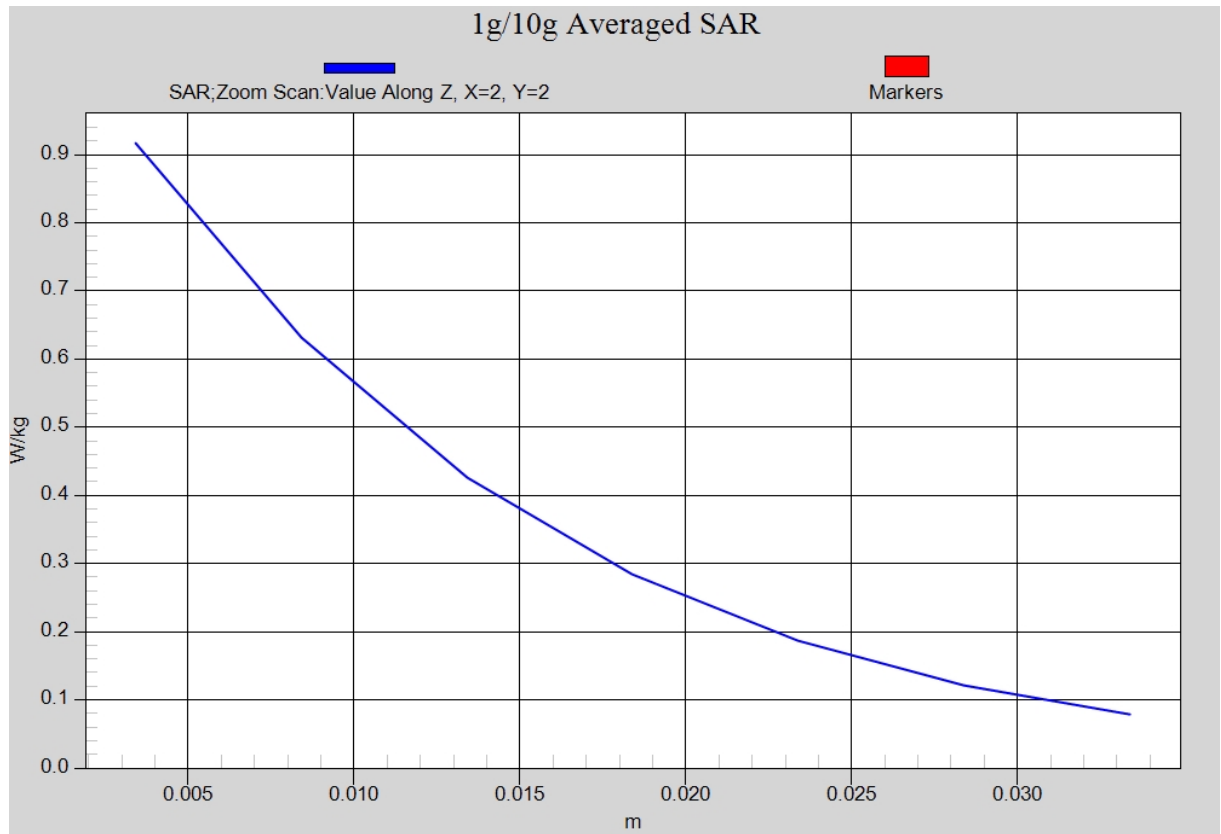


Fig. 19-1 Z-Scan at power reference point (LTE Band4 CH20300)

LTE Band5 Right Cheek Middle with QPSK_10M_1RB_Middle – AP OFF

Date: 2013-11-10

Electronics: DAE4 Sn771

Medium: Head 850 MHz

Medium parameters used (interpolated): $f = 836.5$ MHz; $\sigma = 0.919$ mho/m; $\epsilon_r = 40.526$; $\rho = 1000$ kg/m³

Ambient Temperature: 22.5°C Liquid Temperature: 22.0°C

Communication System: LTE Band5 Frequency: 836.5 MHz Duty Cycle: 1:1

Probe: EX3DV4 - SN3846 ConvF(8.92, 8.92, 8.92)

Cheek Middle/Area Scan (61x101x1): Interpolated grid: dx=1.000 mm, dy=1.000 mm

Maximum value of SAR (interpolated) = 0.450 W/kg

Cheek Middle/Zoom Scan (7x7x7)/Cube 0: Measurement grid: dx=5mm, dy=5mm, dz=5mm

Reference Value = 3.974 V/m; Power Drift = -0.10 dB

Peak SAR (extrapolated) = 0.548 W/kg

SAR(1 g) = 0.405 W/kg; SAR(10 g) = 0.298 W/kg

Maximum value of SAR (measured) = 0.427 W/kg

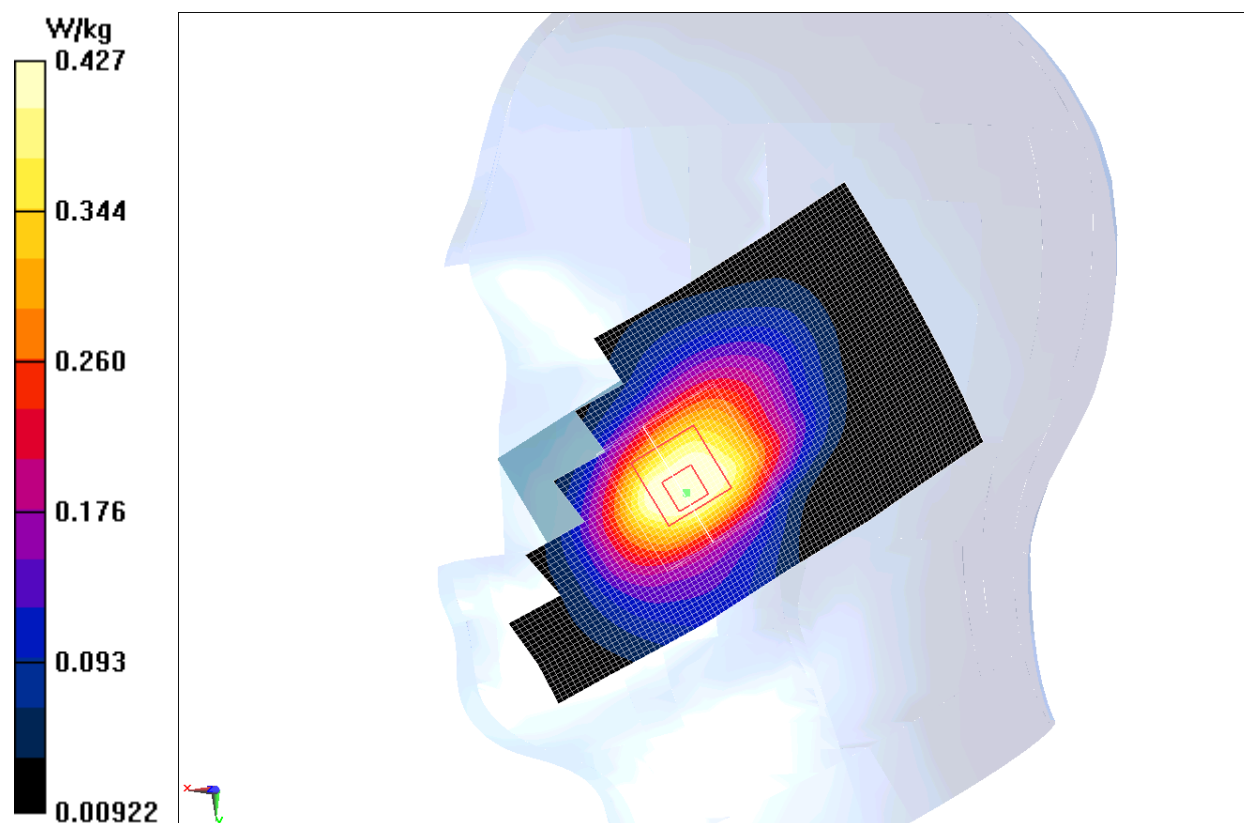


Fig.20 LTE Band5 CH20525

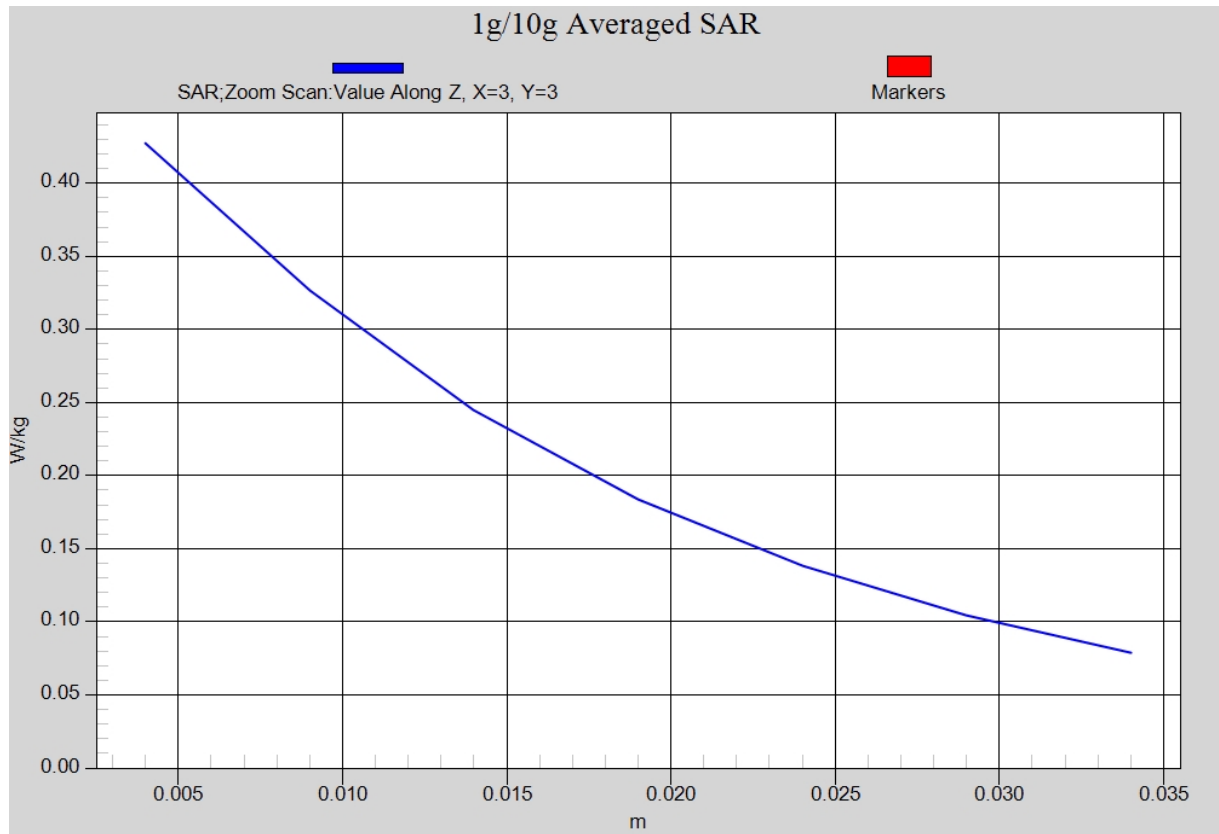


Fig. 20-1 Z-Scan at power reference point (LTE Band5 CH20525)

LTE Band5 Body Rear Middle with QPSK_10M_1RB_Middle – AP OFF

Date: 2013-11-10

Electronics: DAE4 Sn771

Medium: Body 850 MHz

Medium parameters used (interpolated): $f = 836.5$ MHz; $\sigma = 0.962$ mho/m; $\epsilon_r = 55.77$; $\rho = 1000$ kg/m³

Ambient Temperature: 22.5°C Liquid Temperature: 22.0°C

Communication System: LTE Band5 Frequency: 836.5 MHz Duty Cycle: 1:1

Probe: EX3DV4 - SN3846 ConvF(8.73, 8.73, 8.73)

Rear Middle/Area Scan (61x101x1): Interpolated grid: dx=1.000 mm, dy=1.000 mm

Maximum value of SAR (interpolated) = 0.503 W/kg

Rear Middle/Zoom Scan (7x7x7)/Cube 0: Measurement grid: dx=5mm, dy=5mm, dz=5mm

Reference Value = 18.162 V/m; Power Drift = -0.03 dB

Peak SAR (extrapolated) = 0.532 W/kg

SAR(1 g) = 0.465 W/kg; SAR(10 g) = 0.365 W/kg

Maximum value of SAR (measured) = 0.477 W/kg

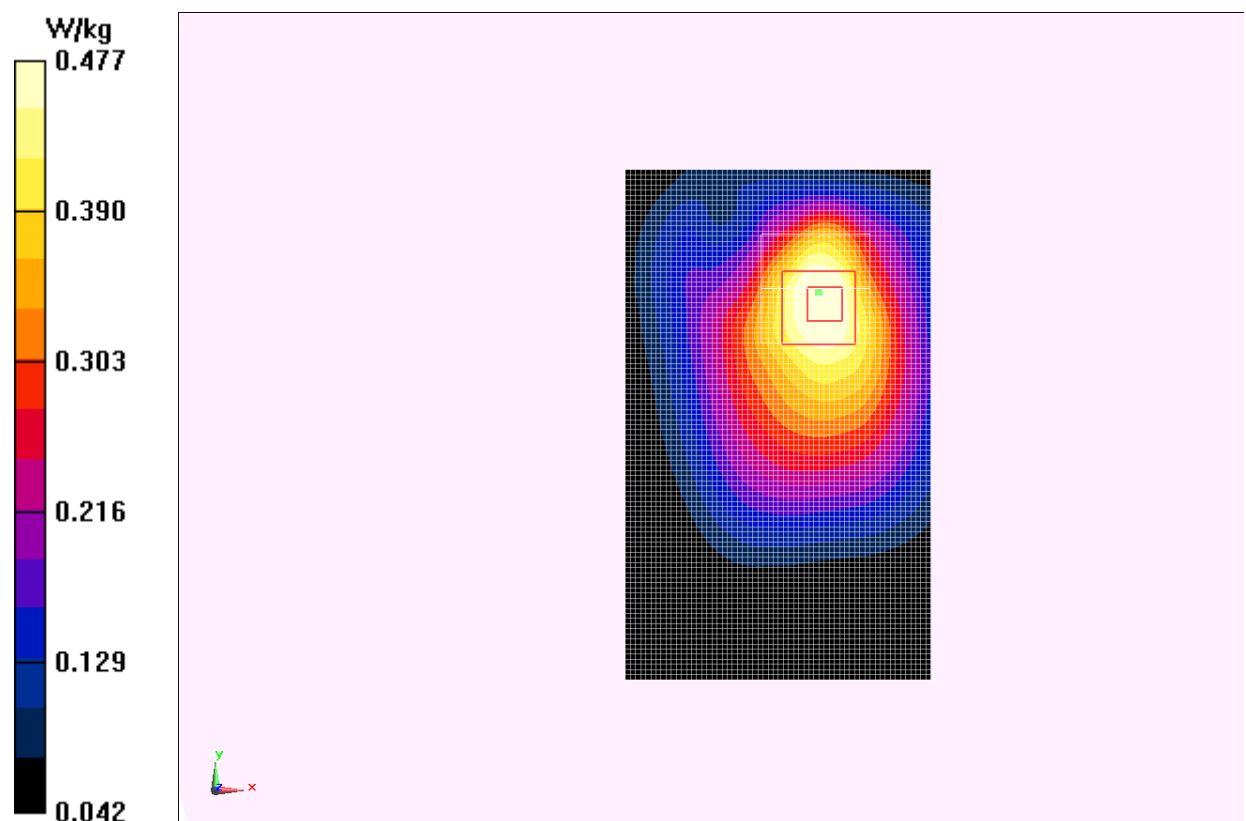


Fig.21 LTE Band5 CH20525

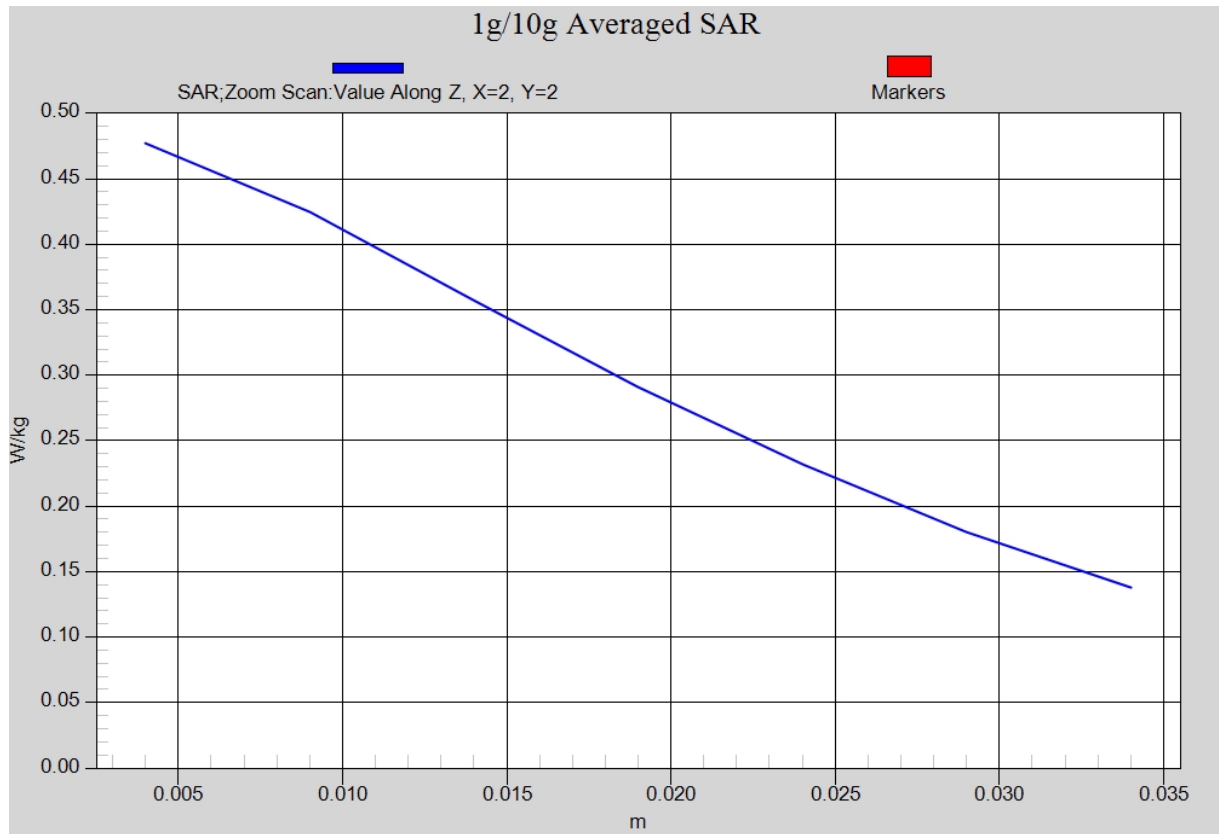


Fig. 21-1 Z-Scan at power reference point (LTE Band5 CH20525)

LTE Band7 Right Cheek High with QPSK_20M_1RB_High – AP OFF

Date: 2013-11-13

Electronics: DAE4 Sn771

Medium: Head 2600 MHz

Medium parameters used: $f = 2560$ MHz; $\sigma = 1.94$ mho/m; $\epsilon_r = 38.814$; $\rho = 1000$ kg/m³

Ambient Temperature: 22.5°C Liquid Temperature: 22.0°C

Communication System: LTE Band7 Frequency: 2560 MHz Duty Cycle: 1:1

Probe: EX3DV4 - SN3846 ConvF(6.68, 6.68, 6.68)

Cheek High/Area Scan (61x101x1): Interpolated grid: $dx=1.000$ mm, $dy=1.000$ mm

Maximum value of SAR (interpolated) = 1.41 W/kg

Cheek High/Zoom Scan (7x7x7)/Cube 0: Measurement grid: $dx=5$ mm, $dy=5$ mm, $dz=5$ mm

Reference Value = 11.895 V/m; Power Drift = -0.14 dB

Peak SAR (extrapolated) = 2.66 W/kg

SAR(1 g) = 1.35 W/kg; SAR(10 g) = 0.692 W/kg

Maximum value of SAR (measured) = 1.47 W/kg

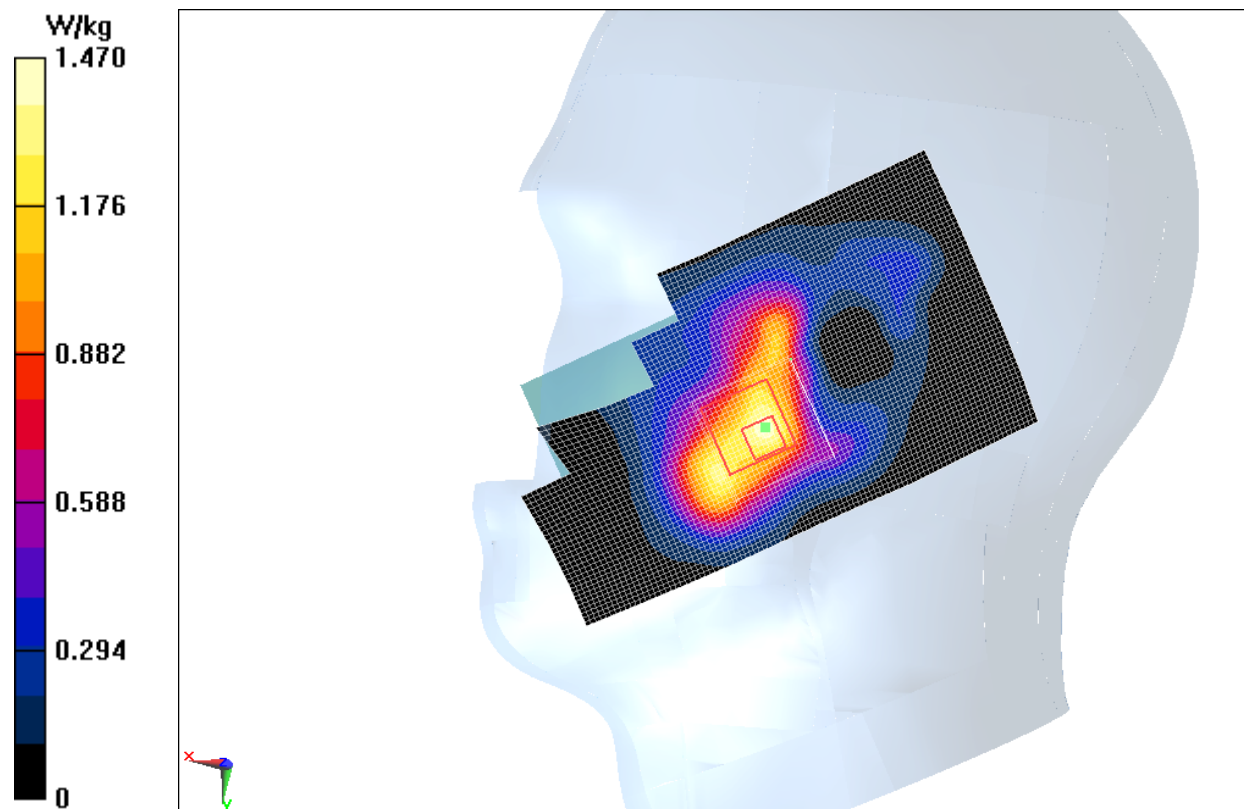


Fig.22 LTE Band7 CH21350

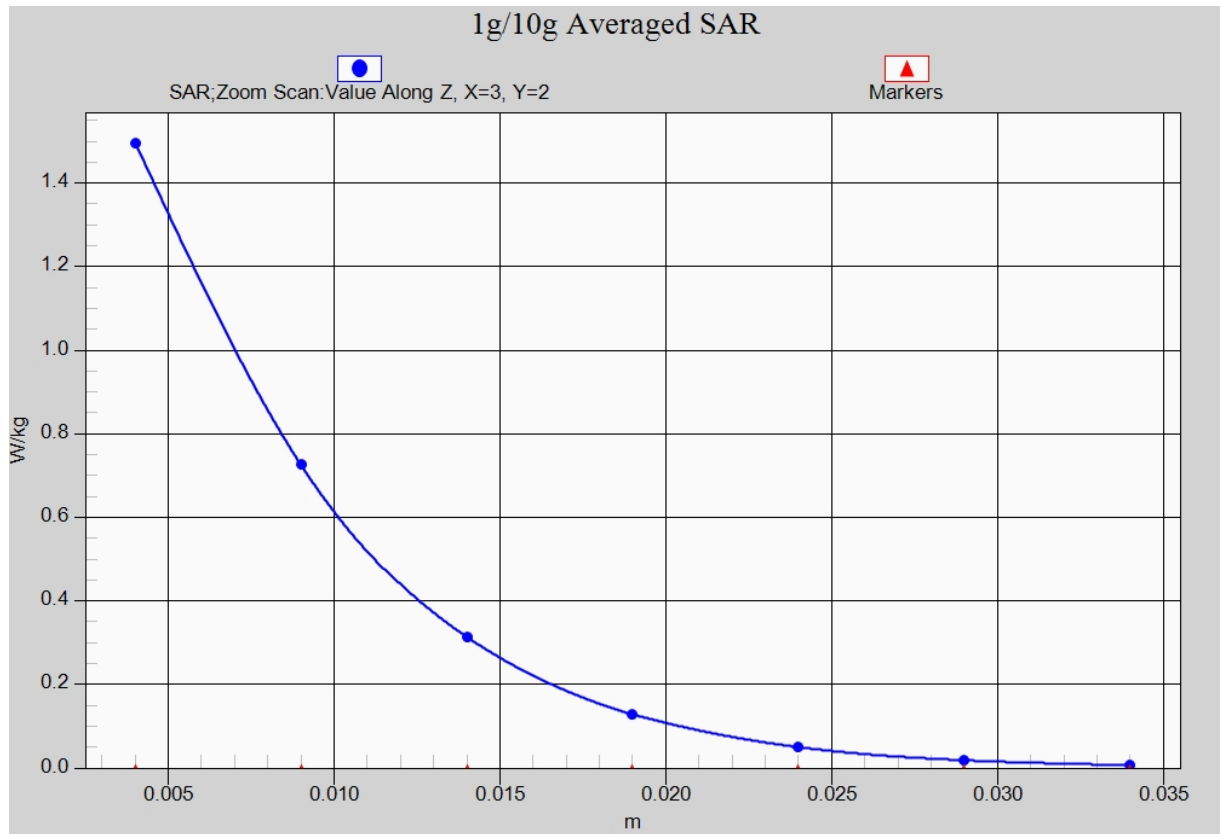


Fig. 22-1 Z-Scan at power reference point (LTE Band7 CH21350)

LTE Band7 Body Front Middle with QPSK_20M_1RB_High – AP OFF

Date: 2013-11-13

Electronics: DAE4 Sn771

Medium: Body 2600 MHz

Medium parameters used: $f = 2535$ MHz; $\sigma = 2.118$ mho/m; $\epsilon_r = 51.873$; $\rho = 1000$ kg/m³

Ambient Temperature: 22.5°C Liquid Temperature: 22.0°C

Communication System: LTE Band7 Frequency: 2535 MHz Duty Cycle: 1:1

Probe: EX3DV4 - SN3846 ConvF(6.59, 6.59, 6.59)

Front Middle/Area Scan (61x101x1): Interpolated grid: dx=1.000 mm, dy=1.000 mm

Maximum value of SAR (interpolated) = 0.644 W/kg

Front Middle/Zoom Scan (7x7x7)/Cube 0: Measurement grid: dx=5mm, dy=5mm, dz=5mm

Reference Value = 9.848 V/m; Power Drift = 0.04 dB

Peak SAR (extrapolated) = 0.707 W/kg

SAR(1 g) = 0.442 W/kg; SAR(10 g) = 0.256 W/kg

Maximum value of SAR (measured) = 0.572 W/kg

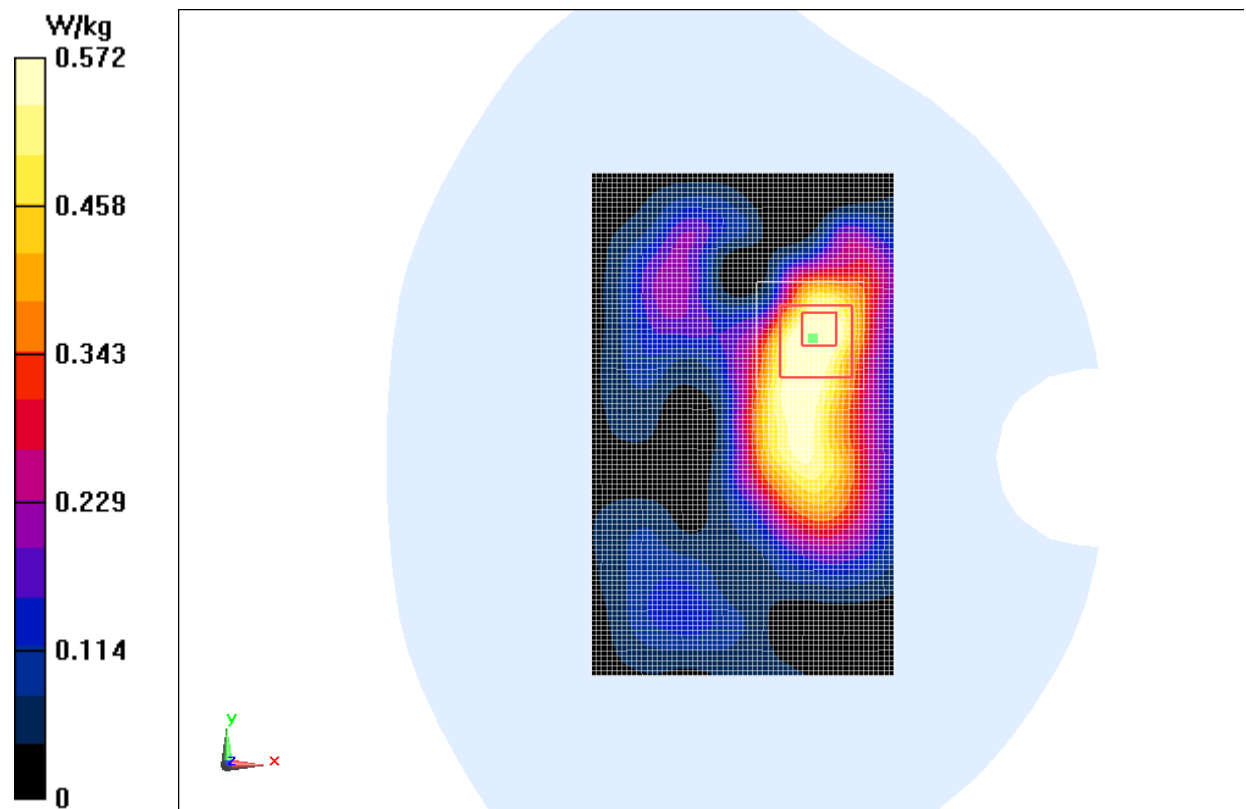


Fig.23 LTE Band7 CH21100

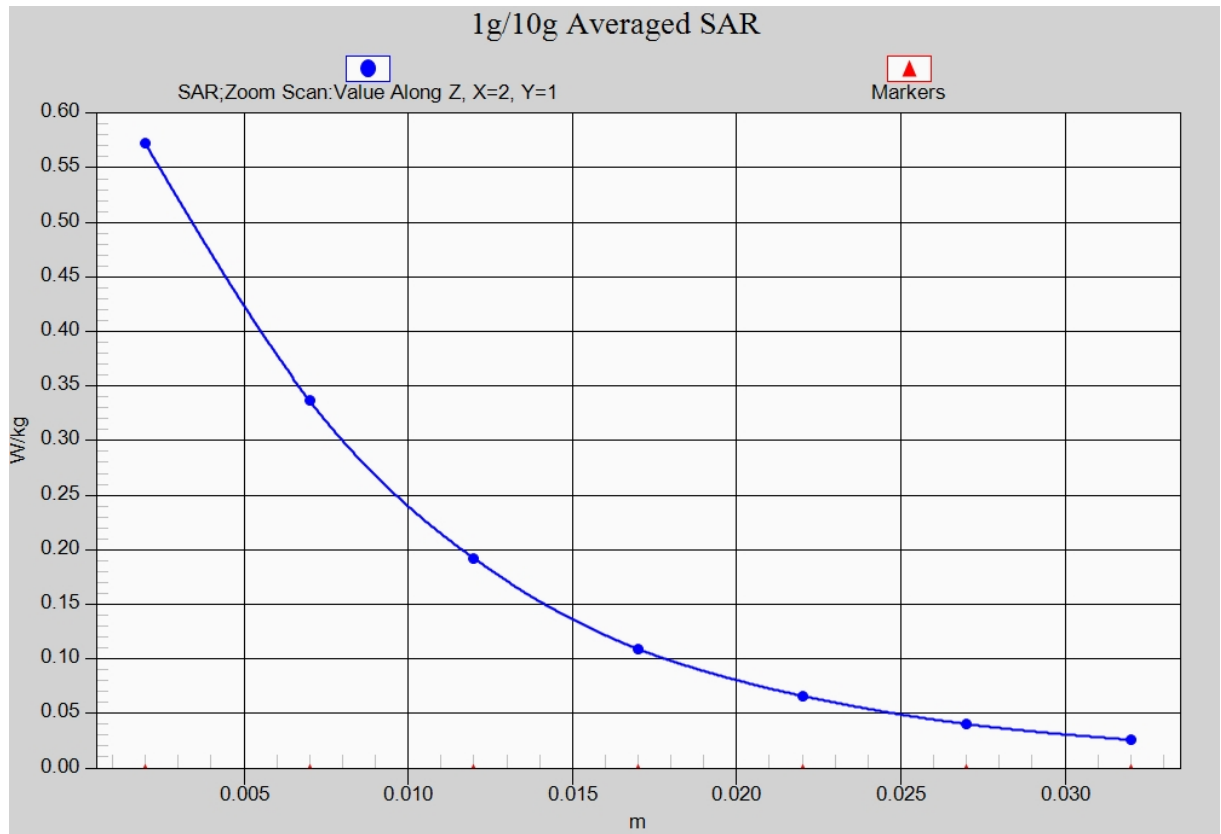


Fig. 23-1 Z-Scan at power reference point (LTE Band7 CH21100)

Wifi 802.11b Right Cheek Channel 6 – AP OFF

Date: 2013-11-14

Electronics: DAE4 Sn771

Medium: Head 2450 MHz

Medium parameters used (interpolated): $f = 2437$ MHz; $\sigma = 1.812$ mho/m; $\epsilon_r = 38.482$; $\rho = 1000$ kg/m³

Ambient Temperature: 22.4°C Liquid Temperature: 21.9°C

Communication System: WLan 2450 Frequency: 2437 MHz Duty Cycle: 1:1

Probe: EX3DV4 - SN3846 ConvF(6.78, 6.78, 6.78)

Cheek Middle/Area Scan (91x151x1): Interpolated grid: dx=1.000 mm, dy=1.000 mm

Maximum value of SAR (interpolated) = 0.149 W/kg

Cheek Middle/Zoom Scan (7x7x7)/Cube 0: Measurement grid: dx=5mm, dy=5mm, dz=5mm

Reference Value = 1.343 V/m; Power Drift = 0.13 dB

Peak SAR (extrapolated) = 0.196 W/kg

SAR(1 g) = 0.104 W/kg; SAR(10 g) = 0.052 W/kg

Maximum value of SAR (measured) = 0.153 W/kg

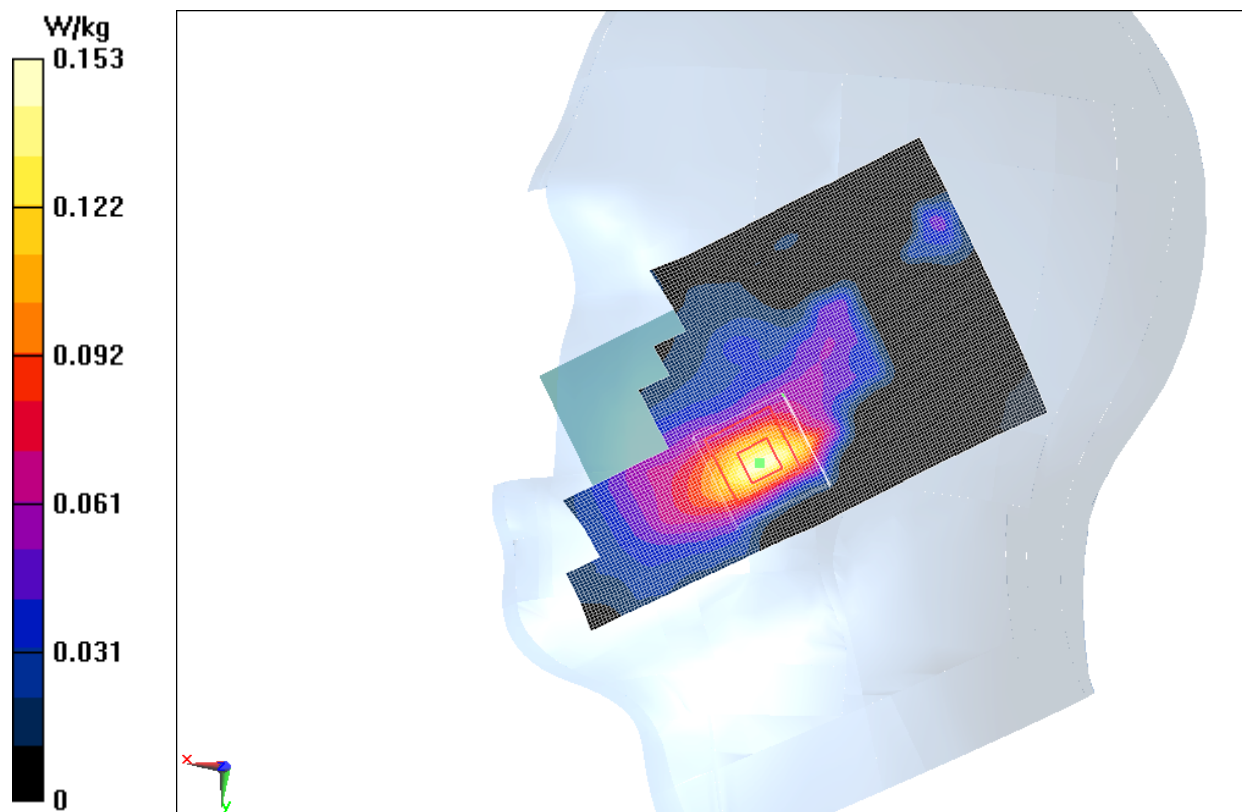


Fig.24 2450 MHz CH6

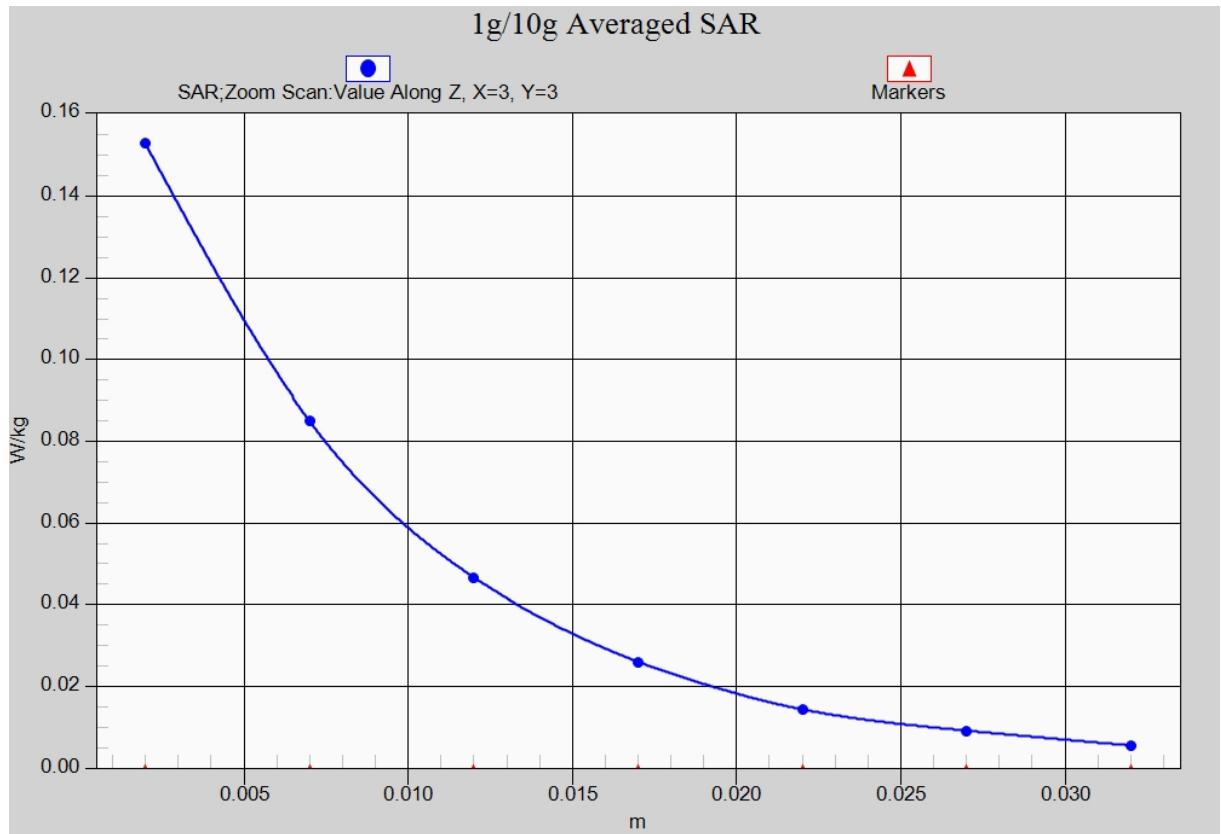


Fig. 24-1 Z-Scan at power reference point (2450 MHz CH6)

Wifi 802.11b Body Rear Channel 6 – AP OFF

Date: 2013-11-14

Electronics: DAE4 Sn771

Medium: Body 2450 MHz

Medium parameters used (interpolated): $f = 2437$ MHz; $\sigma = 1.944$ mho/m; $\epsilon_r = 53.236$; $\rho = 1000$ kg/m³

Ambient Temperature: 22.4°C Liquid Temperature: 21.9°C

Communication System: WLan 2450 Frequency: 2437 MHz Duty Cycle: 1:1

Probe: EX3DV4 - SN3846 ConvF(6.73, 6.73, 6.73)

Rear Middle/Area Scan (61x101x1): Interpolated grid: dx=1.000 mm, dy=1.000 mm

Maximum value of SAR (interpolated) = 0.181 W/kg

Rear Middle/Zoom Scan (7x7x7)/Cube 0: Measurement grid: dx=5mm, dy=5mm, dz=5mm

Reference Value = 2.948 V/m; Power Drift = 0.16 dB

Peak SAR (extrapolated) = 0.254 W/kg

SAR(1 g) = 0.144 W/kg; SAR(10 g) = 0.071 W/kg

Maximum value of SAR (measured) = 0.200 W/kg

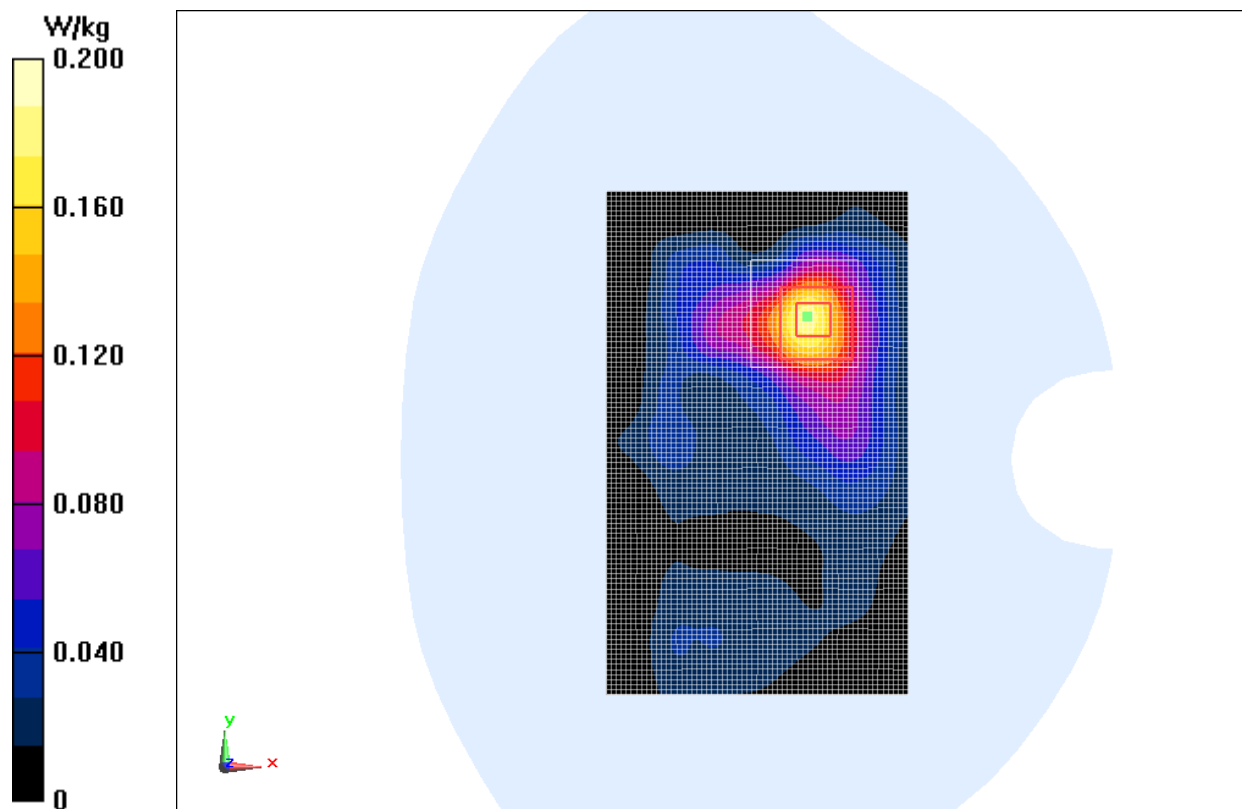


Fig.25 2450 MHz CH6

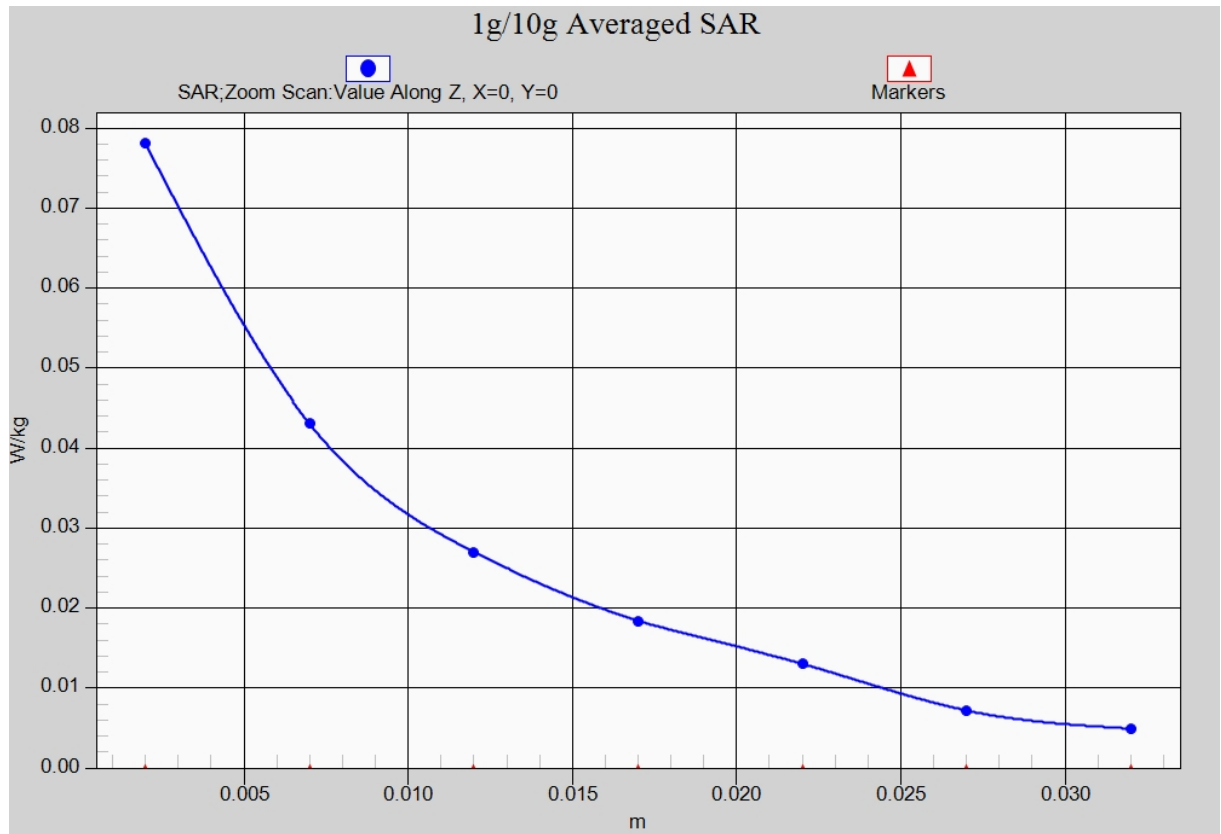


Fig. 25-1 Z-Scan at power reference point (2450 MHz CH6)

Wifi 802.11a Left Cheek Channel 153

Date: 2013-11-16

Electronics: DAE4 Sn771

Medium: Head 5800 MHz

Medium parameters used: $f = 5765$ MHz; $\sigma = 5.376$ mho/m; $\epsilon_r = 34.934$; $\rho = 1000$ kg/m³

Ambient Temperature: 22.3°C Liquid Temperature: 21.8°C

Communication System: Wlan 5G Frequency: 5765 MHz Duty Cycle: 1:1

Probe: EX3DV4 - SN3846 ConvF(4.51, 4.51, 4.51)

Cheek/Area Scan (91x151x1): Interpolated grid: dx=1.000 mm, dy=1.000 mm

Maximum value of SAR (interpolated) = 0.270 W/kg

Cheek/Zoom Scan (8x8x7)/Cube 0: Measurement grid: dx=4mm, dy=4mm, dz=1.4mm

Reference Value = 1.113 V/m; Power Drift = -0.15 dB

Peak SAR (extrapolated) = 16.3 W/kg

SAR(1 g) = 0.069 W/kg; SAR(10 g) = 0.024 W/kg

Maximum value of SAR (measured) = 0.144 W/kg

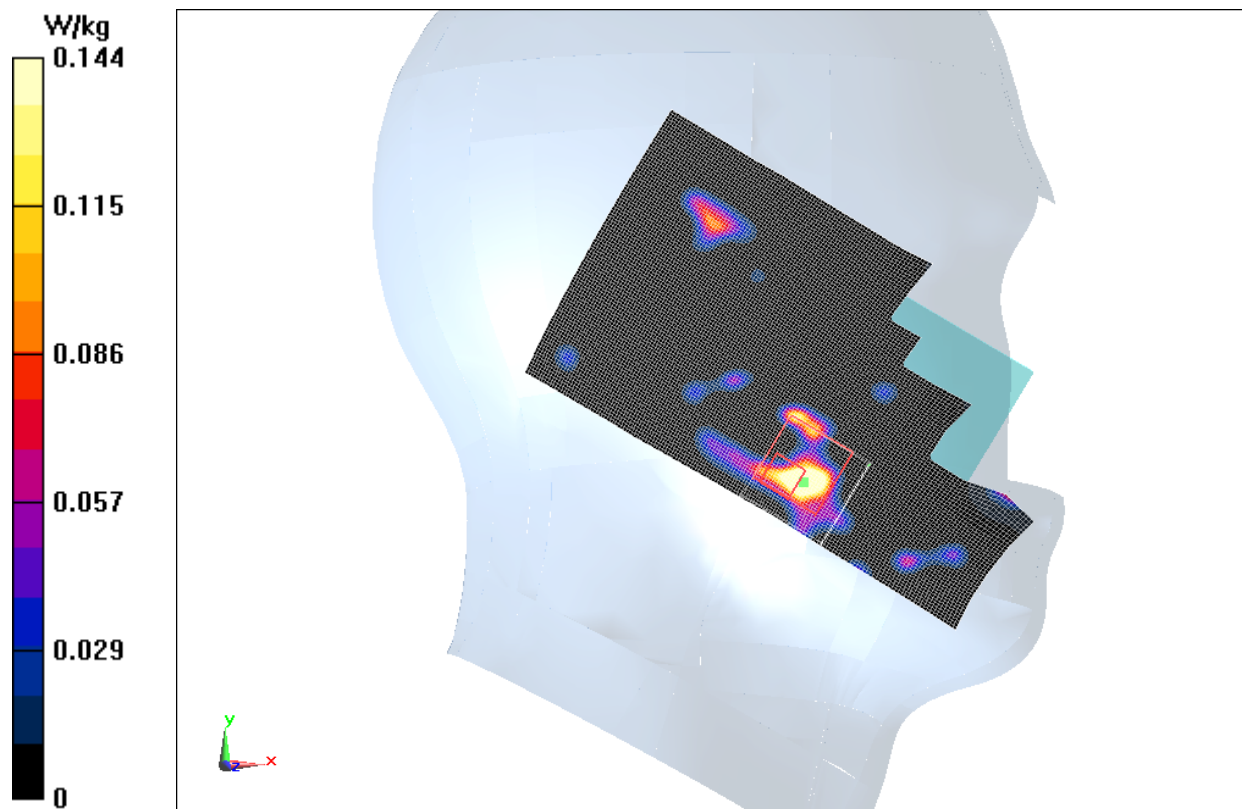


Fig.26 5GHz CH153

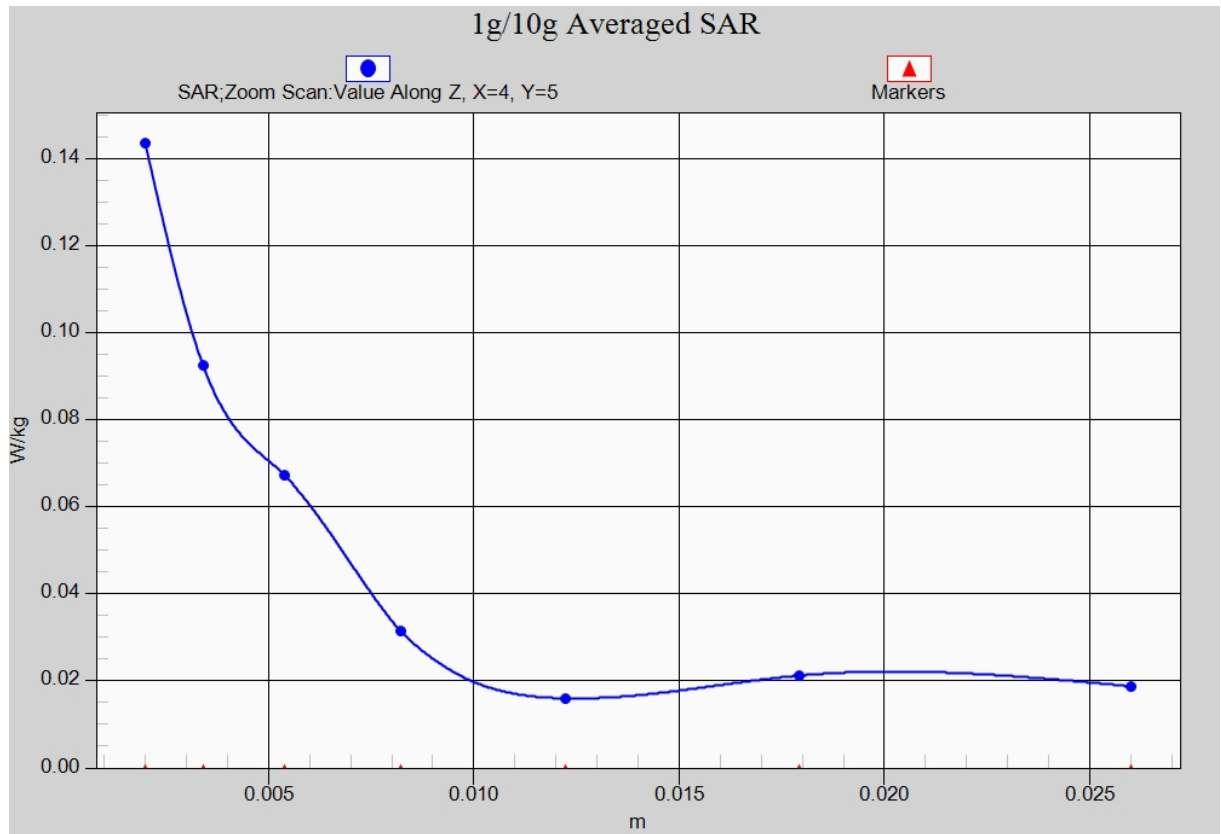


Fig. 26-1 Z-Scan at power reference point (5GHz CH153)

Wifi 802.11a Rear Channel 153

Date: 2013-11-16

Electronics: DAE4 Sn771

Medium: Body 5800 MHz

Medium parameters used: $f = 5765$ MHz; $\sigma = 6.102$ mho/m; $\epsilon_r = 46.874$; $\rho = 1000$ kg/m³

Ambient Temperature: 22.3°C Liquid Temperature: 21.8°C

Communication System: Wlan 5G Frequency: 5765 MHz Duty Cycle: 1:1

Probe: EX3DV4 - SN3846 ConvF(3.94, 3.94, 3.94)

Rear/Area Scan (91x151x1): Interpolated grid: dx=1.000 mm, dy=1.000 mm

Maximum value of SAR (interpolated) = 0.488 W/kg

Rear/Zoom Scan (8x8x7)/Cube 0: Measurement grid: dx=4mm, dy=4mm, dz=1.4mm

Reference Value = 0.392 V/m; Power Drift = 0.12 dB

Peak SAR (extrapolated) = 0.904 W/kg

SAR(1 g) = 0.133 W/kg; SAR(10 g) = 0.045 W/kg

Maximum value of SAR (measured) = 0.302 W/kg

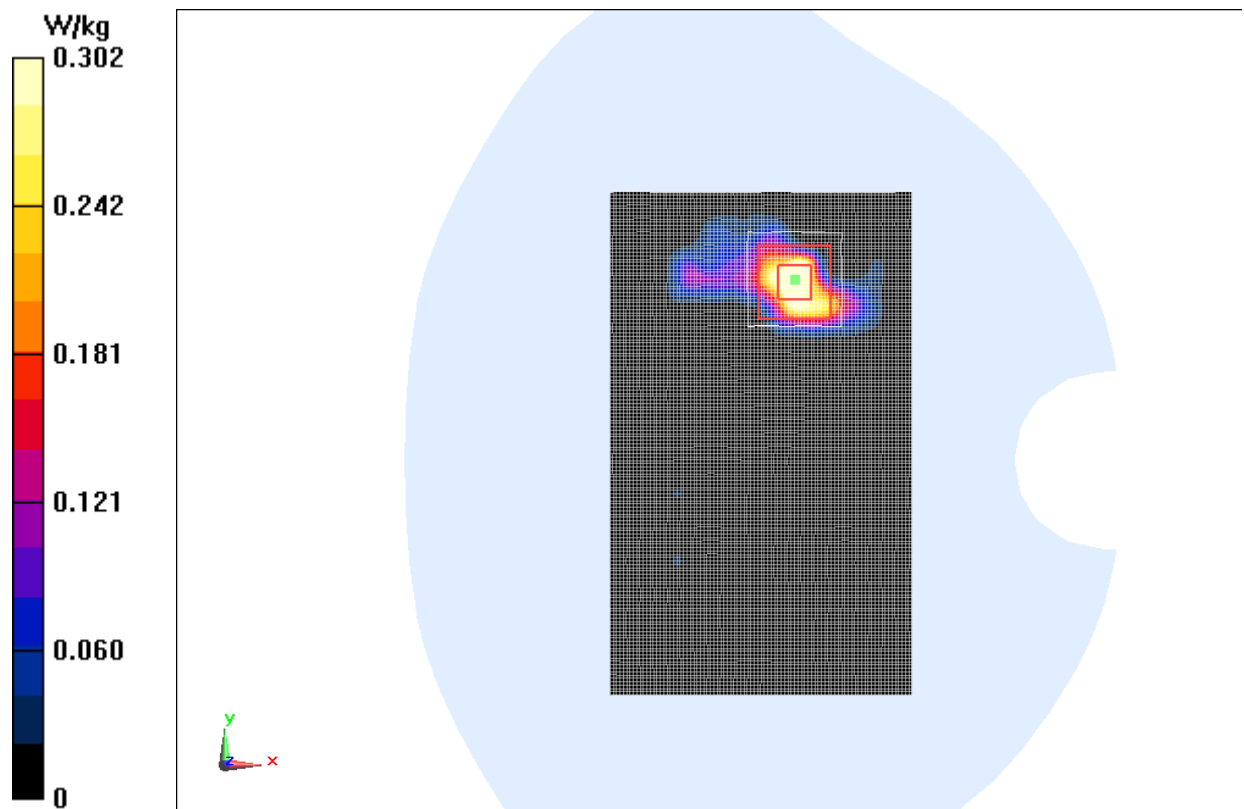


Fig.27 5GHz CH153

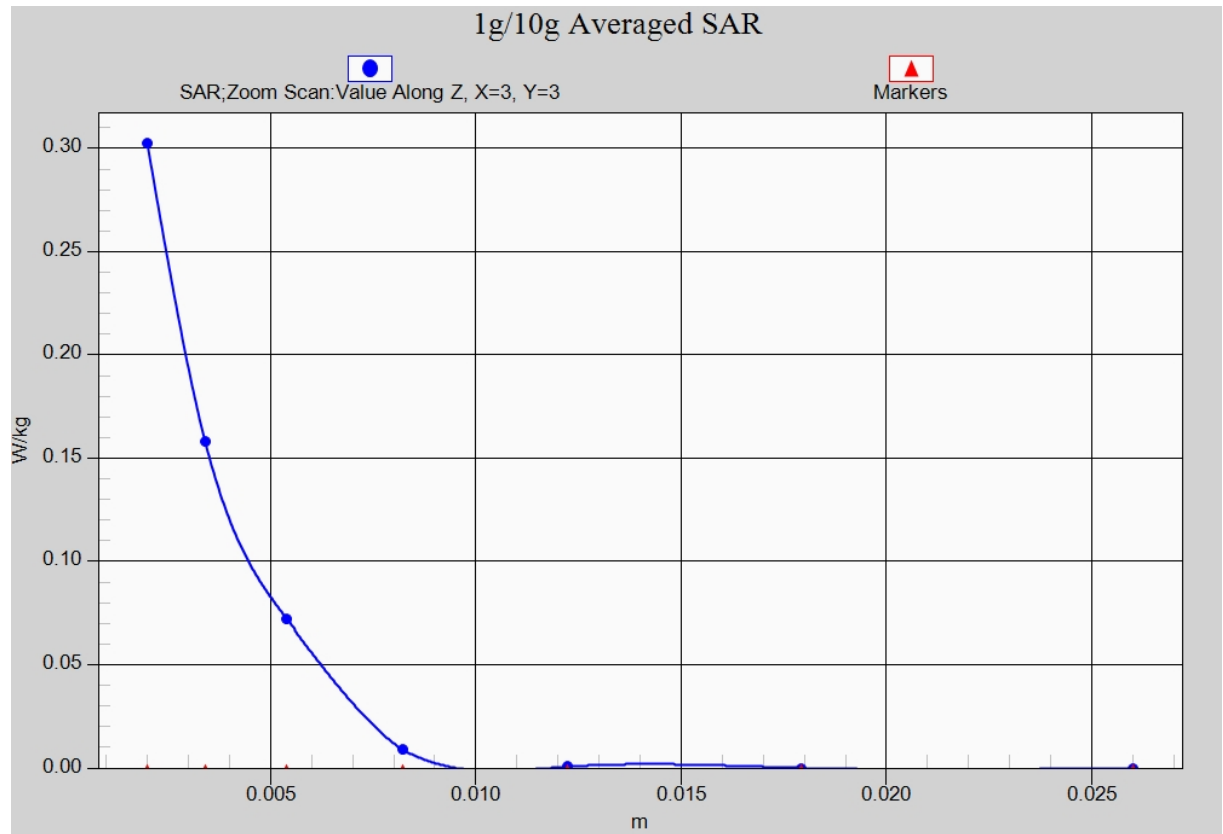


Fig. 27-1 Z-Scan at power reference point (5GHz CH153)

Wifi 802.11n-20M Left Cheek Channel 153

Date: 2013-11-16

Electronics: DAE4 Sn771

Medium: Head 5800 MHz

Medium parameters used: $f = 5765$ MHz; $\sigma = 5.376$ mho/m; $\epsilon_r = 34.934$; $\rho = 1000$ kg/m³

Ambient Temperature: 22.3°C Liquid Temperature: 21.8°C

Communication System: Wlan 5G Frequency: 5765 MHz Duty Cycle: 1:1

Probe: EX3DV4 - SN3846 ConvF(4.51, 4.51, 4.51)

Cheek/Area Scan (91x151x1): Interpolated grid: $dx=1.000$ mm, $dy=1.000$ mm

Maximum value of SAR (interpolated) = 0.130 W/kg

Cheek/Zoom Scan (8x8x7)/Cube 0: Measurement grid: $dx=4$ mm, $dy=4$ mm, $dz=1.4$ mm

Reference Value = 0.450 V/m; Power Drift = -0.11 dB

Peak SAR (extrapolated) = 3.48 W/kg

SAR(1 g) = 0.069 W/kg; SAR(10 g) = 0.017 W/kg

Maximum value of SAR (measured) = 0.130 W/kg

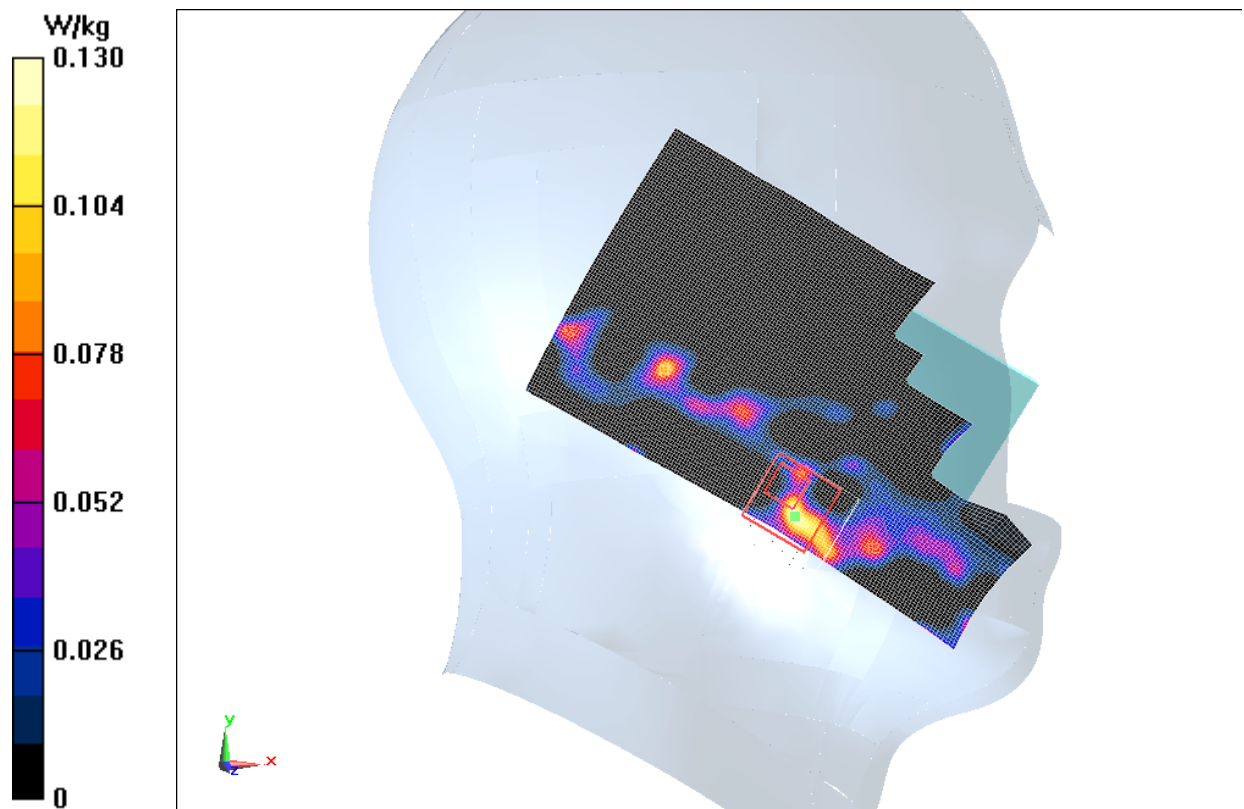


Fig.28 5GHz CH153

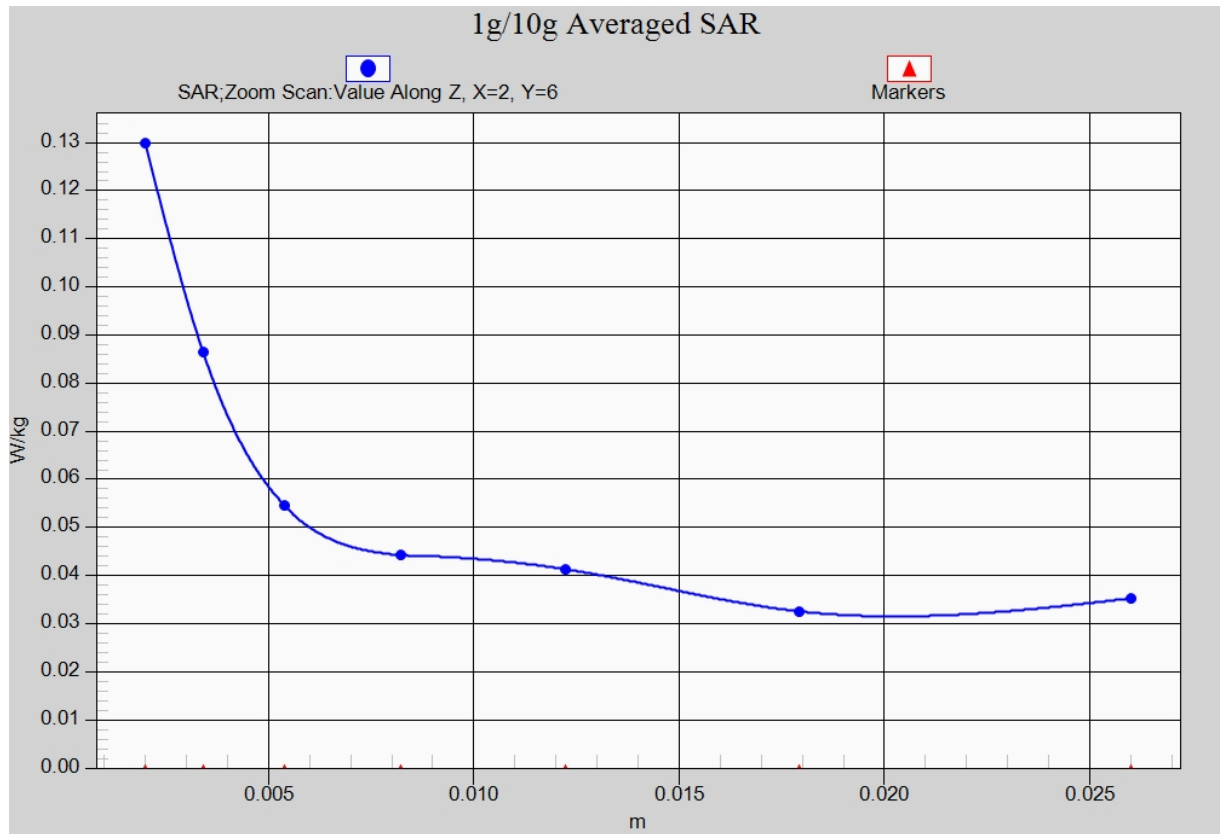


Fig. 28-1 Z-Scan at power reference point (5GHz CH153)

Wifi 802.11n-20M Rear Channel 120

Date: 2013-11-16

Electronics: DAE4 Sn771

Medium: Body 5600 MHz

Medium parameters used: $f = 5600$ MHz; $\sigma = 6.015$ mho/m; $\epsilon_r = 47.19$; $\rho = 1000$ kg/m³

Ambient Temperature: 22.3°C Liquid Temperature: 21.8°C

Communication System: Wlan 5G Frequency: 5600 MHz Duty Cycle: 1:1

Probe: EX3DV4 - SN3846 ConvF(3.77, 3.77, 3.77)

Rear/Area Scan (91x151x1): Interpolated grid: $dx=1.000$ mm, $dy=1.000$ mm

Maximum value of SAR (interpolated) = 0.300 W/kg

Rear/Zoom Scan (8x8x7)/Cube 0: Measurement grid: $dx=4$ mm, $dy=4$ mm, $dz=1.4$ mm

Reference Value = 0.608 V/m; Power Drift = 0.10 dB

Peak SAR (extrapolated) = 1.46 W/kg

SAR(1 g) = 0.152 W/kg; SAR(10 g) = 0.038 W/kg

Maximum value of SAR (measured) = 0.314 W/kg

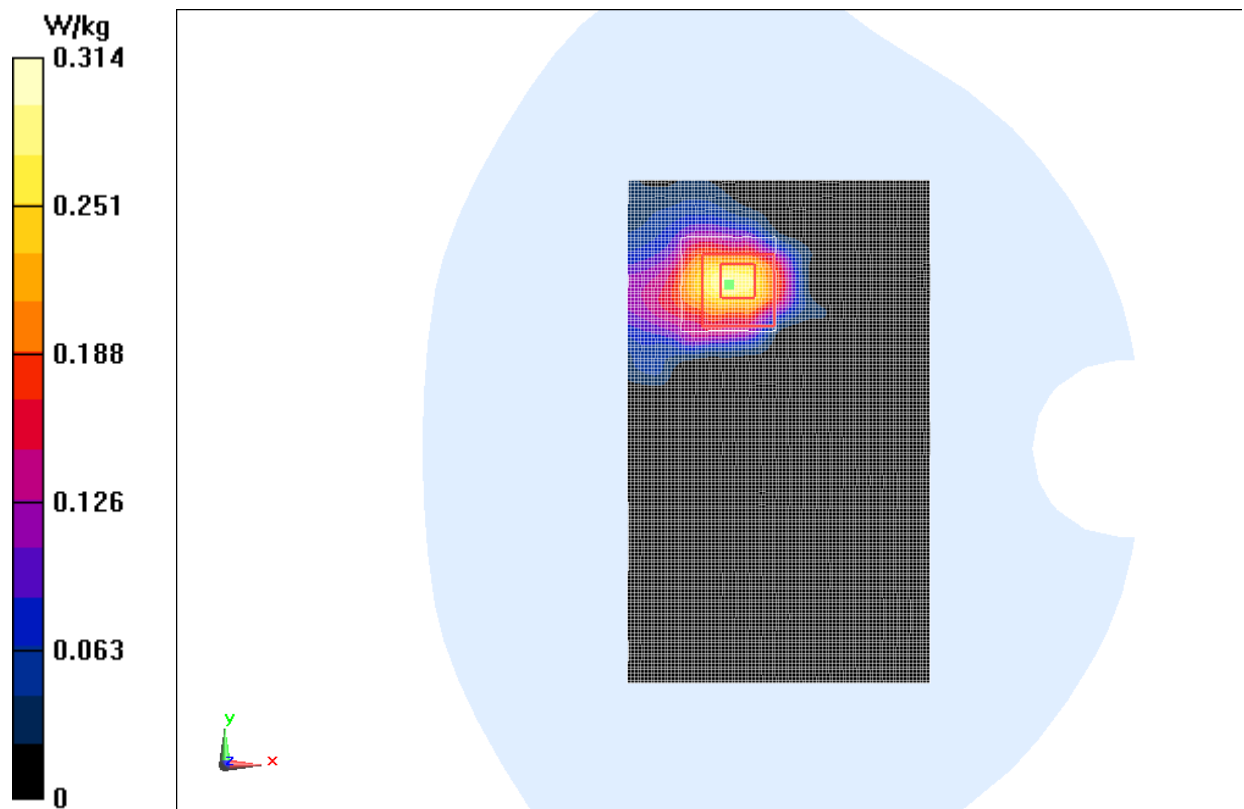


Fig.29 5GHz CH120

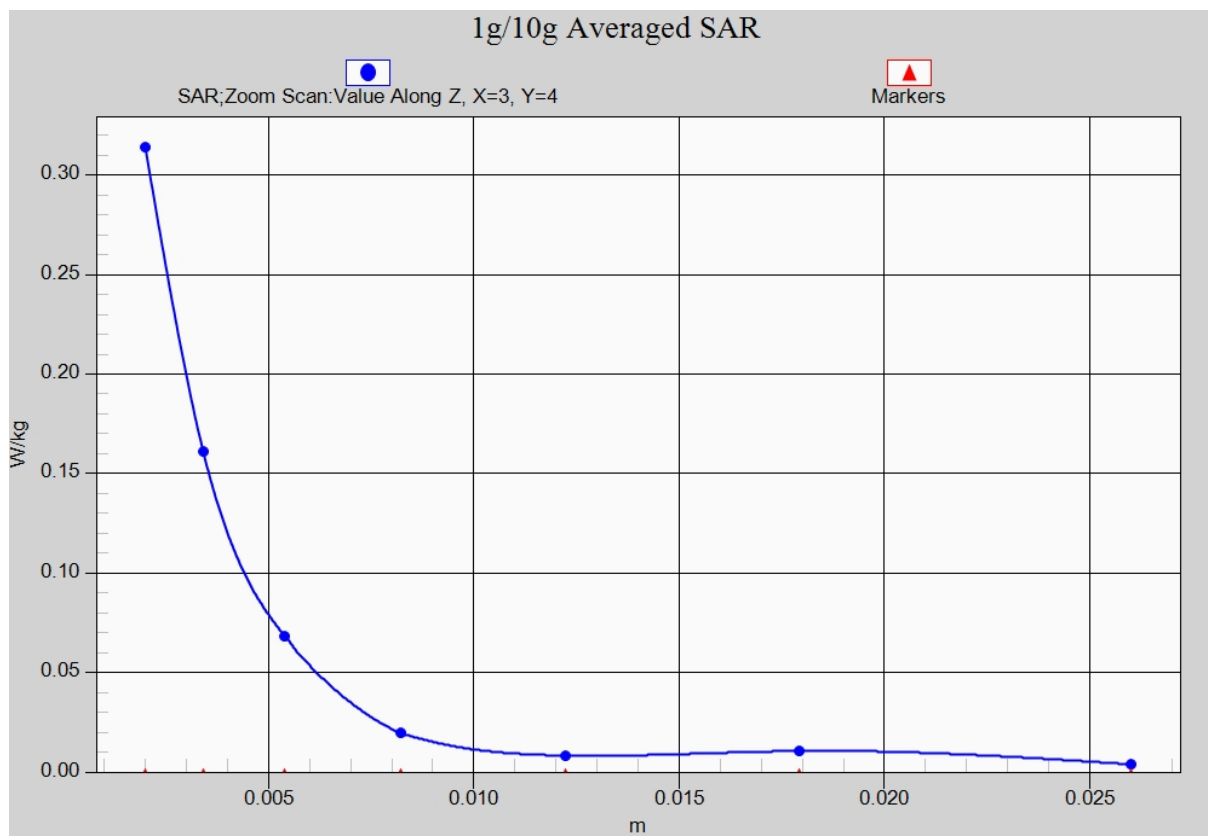


Fig. 29-1 Z-Scan at power reference point (5GHz CH120)

Wifi 802.11ac-20M Left Cheek Channel 120

Date: 2013-11-16

Electronics: DAE4 Sn771

Medium: Head 5600 MHz

Medium parameters used: $f = 5600$ MHz; $\sigma = 5.159$ mho/m; $\epsilon_r = 35.293$; $\rho = 1000$ kg/m³

Ambient Temperature: 22.3°C Liquid Temperature: 21.8°C

Communication System: WLan 5G Frequency: 5600 MHz Duty Cycle: 1:1

Probe: EX3DV4 - SN3846 ConvF(4.52, 4.52, 4.52)

Cheek/Area Scan (91x151x1): Interpolated grid: dx=1.000 mm, dy=1.000 mm

Maximum value of SAR (interpolated) = 0.0734 W/kg

Cheek/Zoom Scan (8x8x7)/Cube 0: Measurement grid: dx=4mm, dy=4mm, dz=1.4mm

Reference Value = 0 V/m; Power Drift = 0.10 dB

Peak SAR (extrapolated) = 0.310 W/kg

SAR(1 g) = 0.038 W/kg; SAR(10 g) = 0.012 W/kg

Maximum value of SAR (measured) = 0.112 W/kg

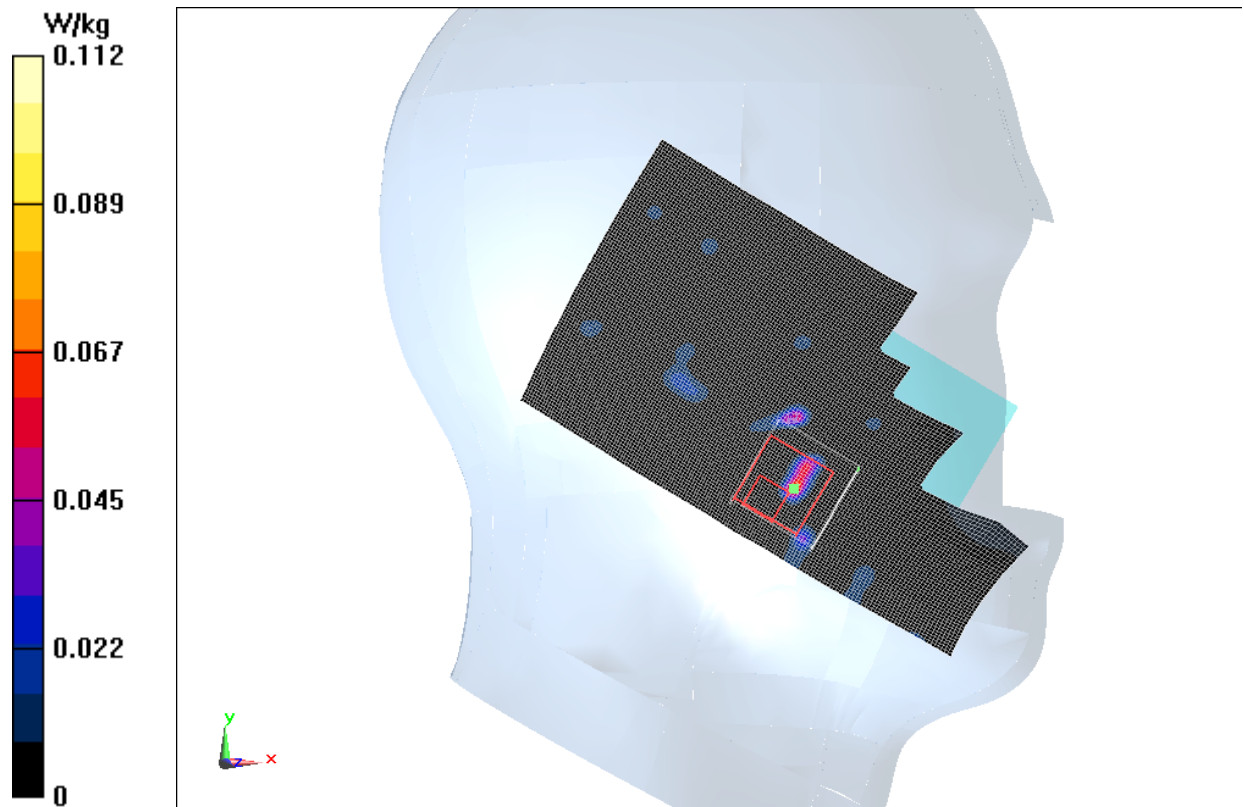


Fig.30 5GHz CH120

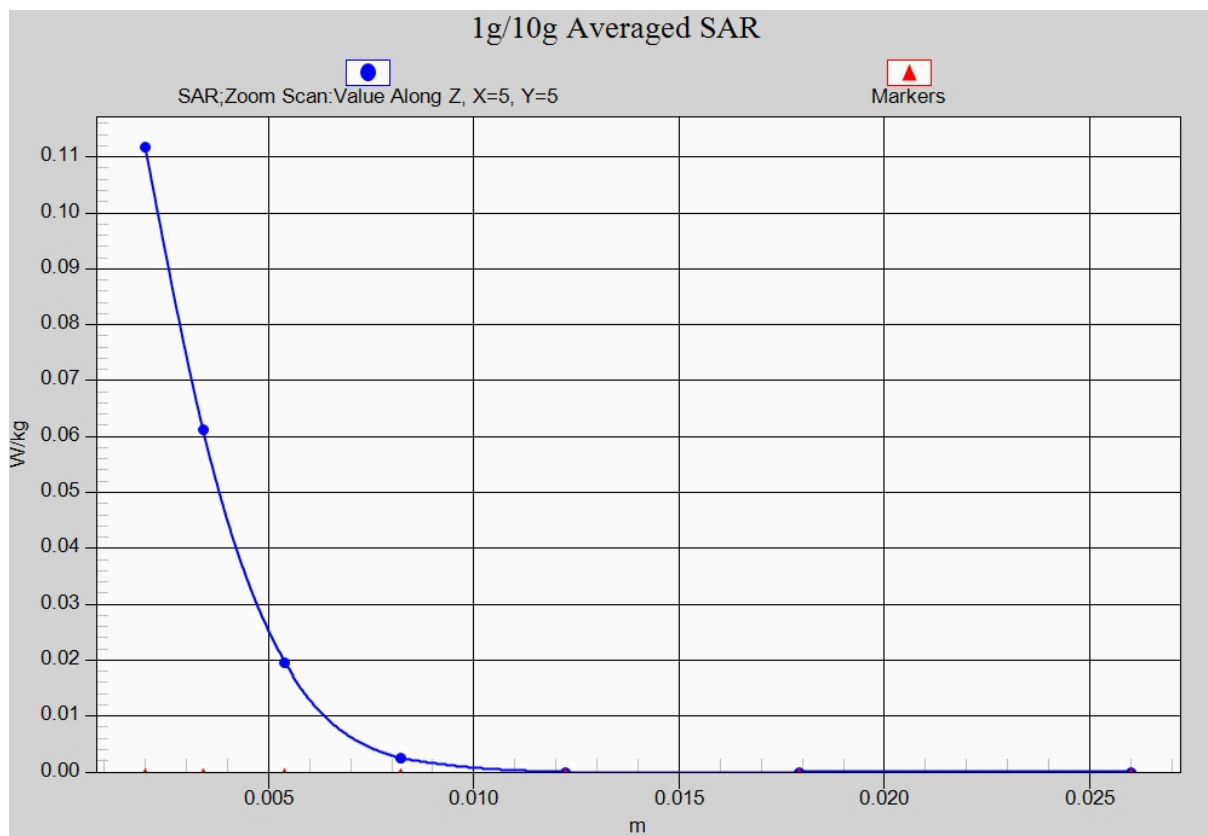


Fig. 30-1 Z-Scan at power reference point (5GHz CH120)

Wifi 802.11ac-20M Rear Channel 120

Date: 2013-11-16

Electronics: DAE4 Sn771

Medium: Body 5600 MHz

Medium parameters used: $f = 5600$ MHz; $\sigma = 6.015$ mho/m; $\epsilon_r = 47.19$; $\rho = 1000$ kg/m³

Ambient Temperature: 22.3°C Liquid Temperature: 21.8°C

Communication System: Wlan 5G Frequency: 5600 MHz Duty Cycle: 1:1

Probe: EX3DV4 - SN3846 ConvF(3.77, 3.77, 3.77)

Rear/Area Scan (91x151x1): Interpolated grid: $dx=1.000$ mm, $dy=1.000$ mm

Maximum value of SAR (interpolated) = 0.316 W/kg

Rear/Zoom Scan (8x8x7)/Cube 0: Measurement grid: $dx=4$ mm, $dy=4$ mm, $dz=1.4$ mm

Reference Value = 0.630 V/m; Power Drift = 0.10 dB

Peak SAR (extrapolated) = 0.823 W/kg

SAR(1 g) = 0.130 W/kg; SAR(10 g) = 0.048 W/kg

Maximum value of SAR (measured) = 0.288 W/kg

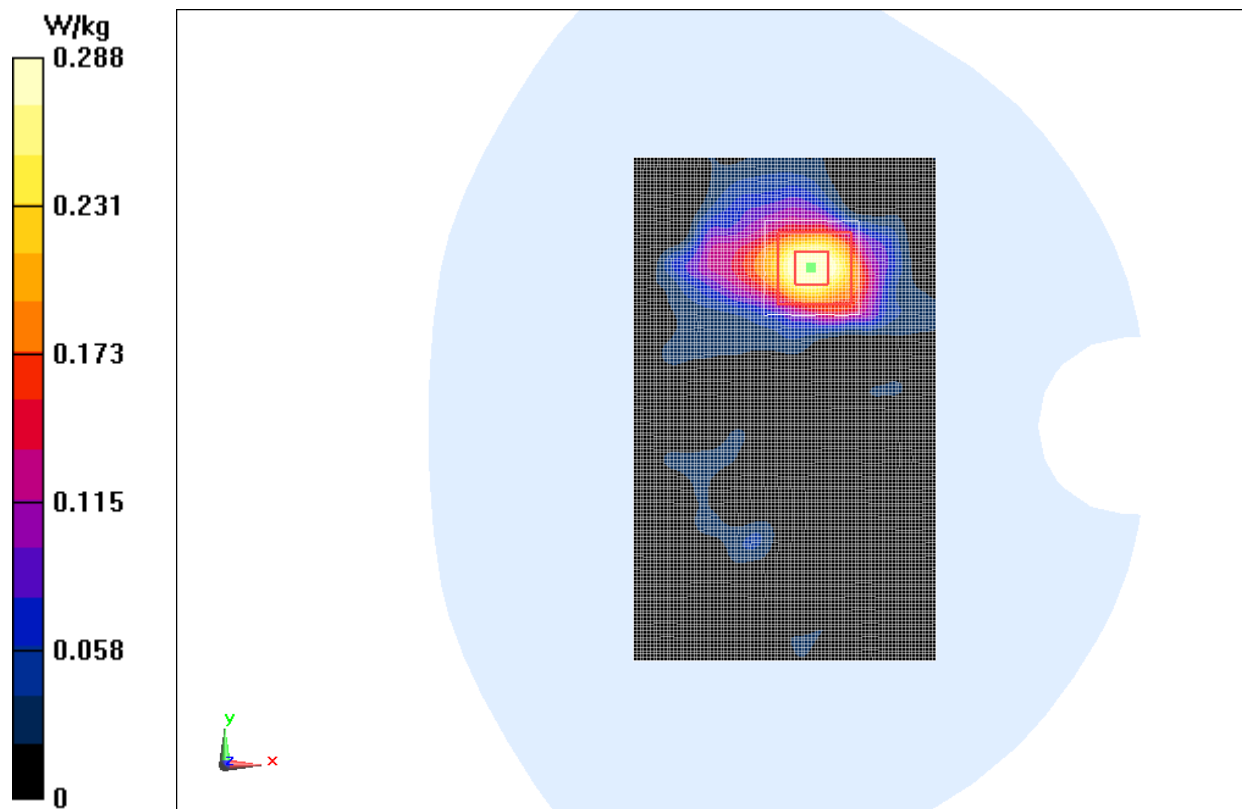


Fig.31 5GHz CH120

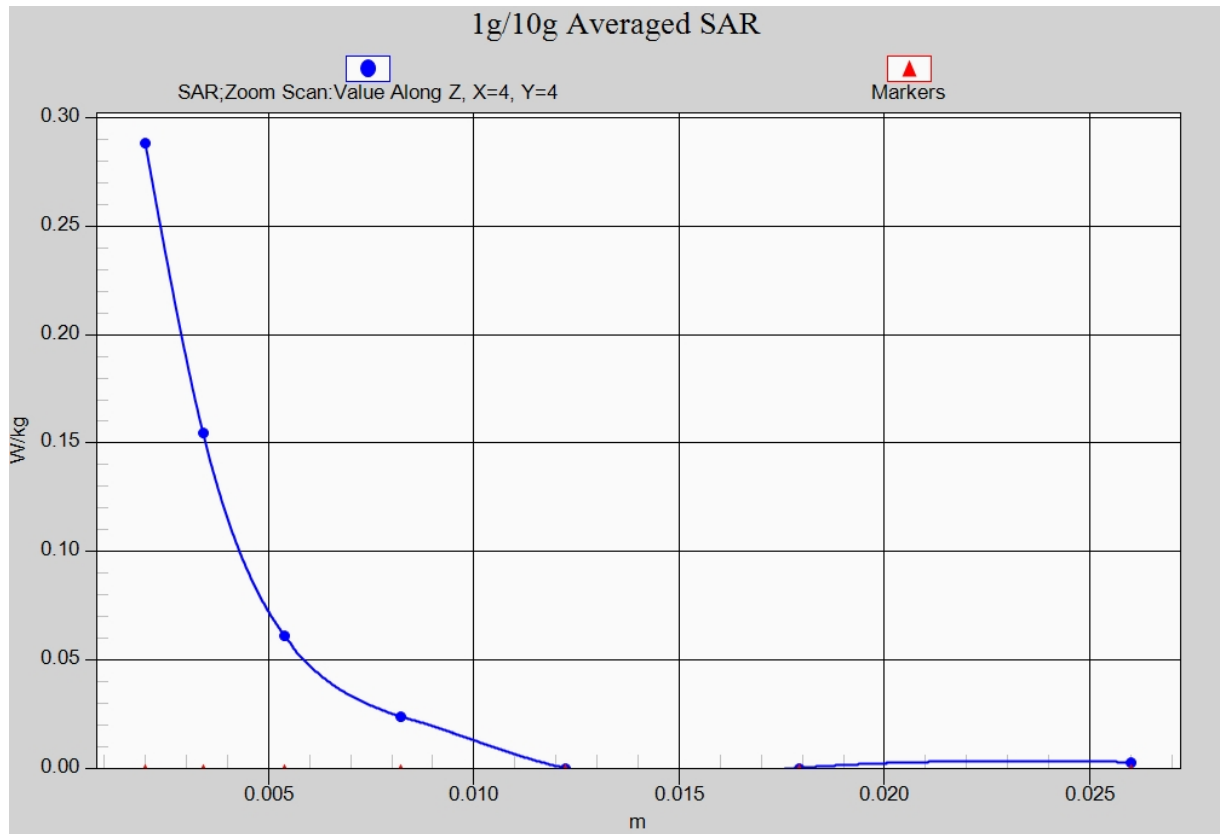


Fig. 31-1 Z-Scan at power reference point (5GHz CH120)

Wifi 802.11ac-80M Left Cheek Channel 106

Date: 2013-11-16

Electronics: DAE4 Sn771

Medium: Head 5600 MHz

Medium parameters used: $f = 5530$ MHz; $\sigma = 5.062$ mho/m; $\epsilon_r = 35.448$; $\rho = 1000$ kg/m³

Ambient Temperature: 22.3°C Liquid Temperature: 21.8°C

Communication System: Wlan 5G Frequency: 5530 MHz Duty Cycle: 1:1

Probe: EX3DV4 - SN3846 ConvF(4.52, 4.52, 4.52)

Cheek/Area Scan (91x151x1): Interpolated grid: $dx=1.000$ mm, $dy=1.000$ mm

Maximum value of SAR (interpolated) = 0.0171 W/kg

Cheek/Zoom Scan (8x8x7)/Cube 0: Measurement grid: $dx=4$ mm, $dy=4$ mm, $dz=1.4$ mm

Reference Value = 0 V/m; Power Drift = 0.10 dB

Peak SAR (extrapolated) = 1.77 W/kg

SAR(1 g) = 0.013 W/kg; SAR(10 g) = 0.00708 W/kg

Maximum value of SAR (measured) = 0.0333 W/kg

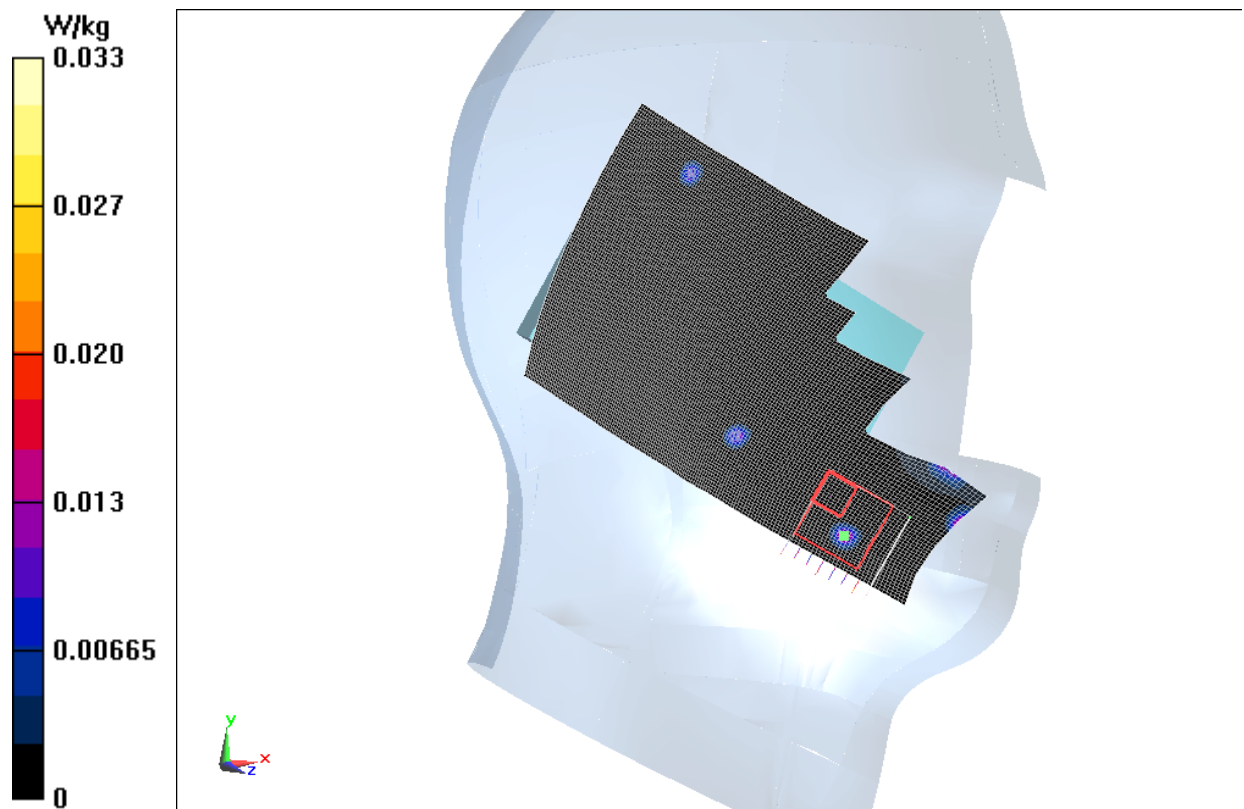


Fig.32 5GHz CH106

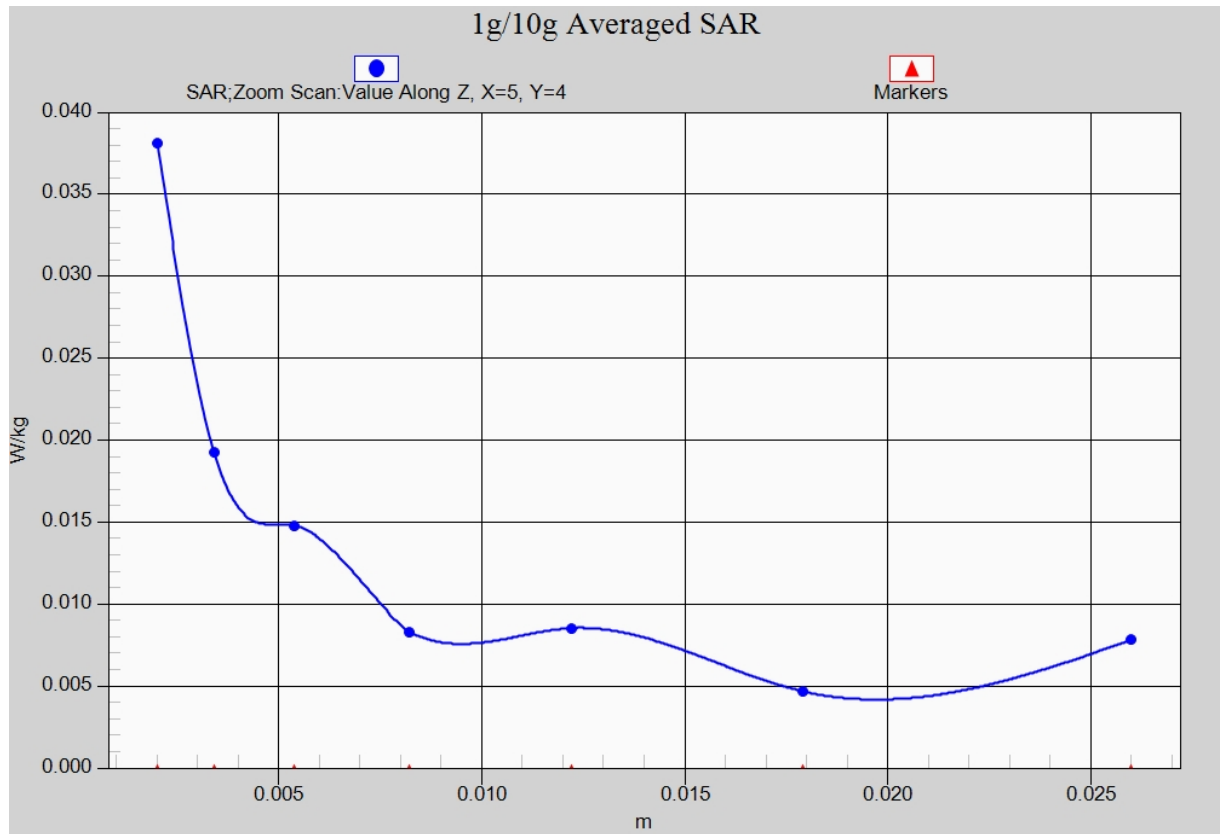


Fig. 32-1 Z-Scan at power reference point (5GHz CH106)

Wifi 802.11ac-80M Rear Channel 122

Date: 2013-11-16

Electronics: DAE4 Sn771

Medium: Body 5600 MHz

Medium parameters used: $f = 5610$ MHz; $\sigma = 6.015$ mho/m; $\epsilon_r = 47.19$; $\rho = 1000$ kg/m³

Ambient Temperature: 22.3°C Liquid Temperature: 21.8°C

Communication System: Wlan 5G Frequency: 5610 MHz Duty Cycle: 1:1

Probe: EX3DV4 - SN3846 ConvF(3.77, 3.77, 3.77)

Rear/Area Scan (91x151x1): Interpolated grid: dx=1.000 mm, dy=1.000 mm

Maximum value of SAR (interpolated) = 0.0373 W/kg

Rear/Zoom Scan (8x8x7)/Cube 0: Measurement grid: dx=4mm, dy=4mm, dz=1.4mm

Reference Value = 1.208 V/m; Power Drift = -0.15 dB

Peak SAR (extrapolated) = 0.348 W/kg

SAR(1 g) = 0.025 W/kg; SAR(10 g) = 0.00849 W/kg

Maximum value of SAR (measured) = 0.0395 W/kg

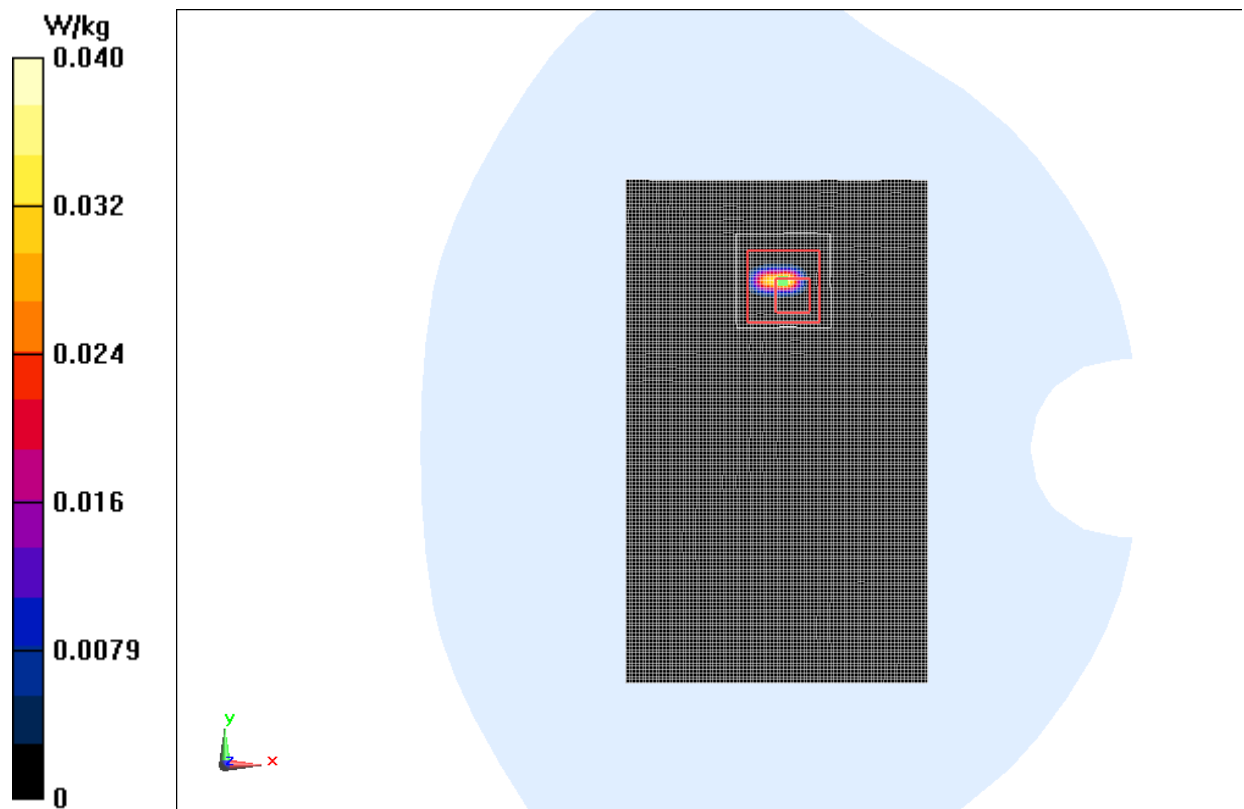


Fig.33 5GHz CH122

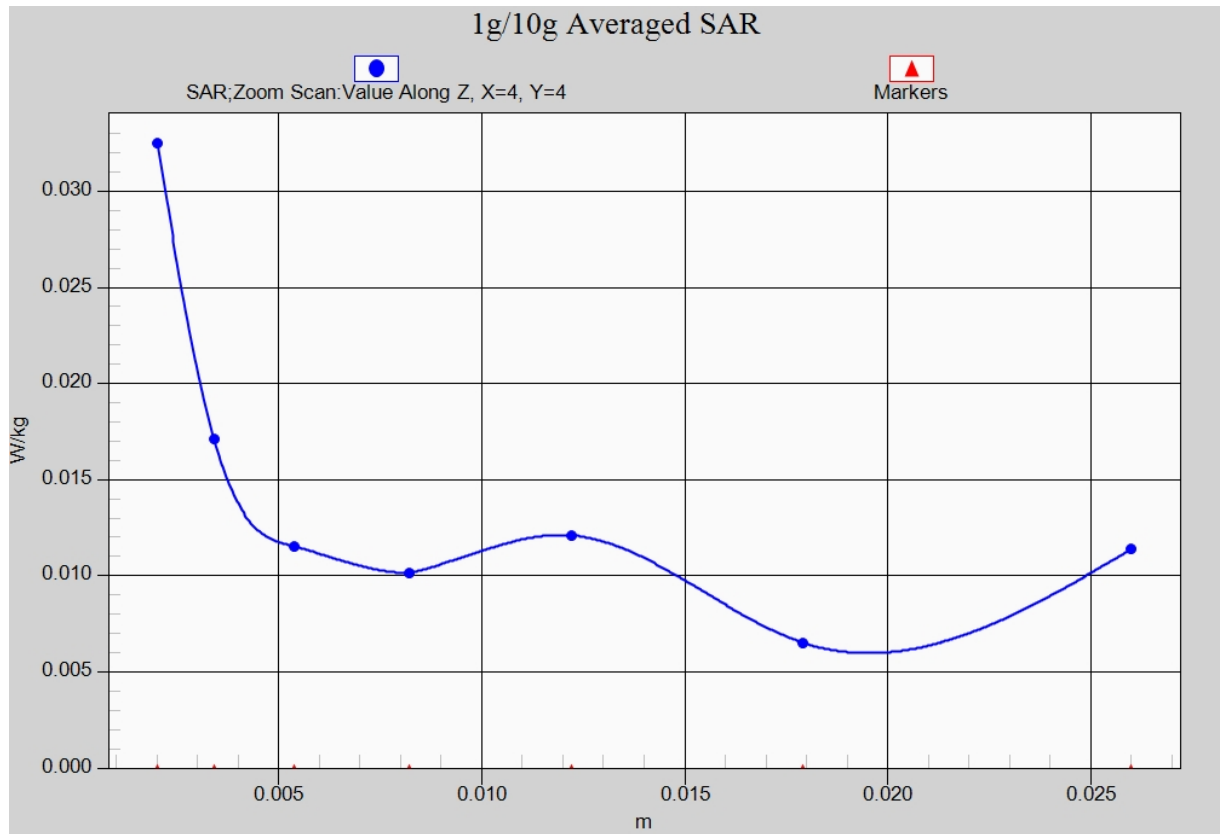


Fig. 33-1 Z-Scan at power reference point (5GHz CH122)

ANNEX B System Verification Results

835MHz

Date: 2013-11-10

Electronics: DAE4 Sn771

Medium: Head 850 MHz

Medium parameters used: $f = 835$ MHz; $\sigma = 0.918$ mho/m; $\epsilon_r = 40.55$; $\rho = 1000$ kg/m³

Ambient Temperature: 22.5°C Liquid Temperature: 22.0°C

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

Probe: EX3DV4 - SN3846 ConvF(8.92, 8.92, 8.92)

System Validation /Area Scan (81x161x1): Measurement grid: dx=10mm, dy=10mm

Reference Value = 53.004 V/m; Power Drift = -0.11 dB

Fast SAR: SAR(1 g) = 2.40 W/kg; SAR(10 g) = 1.56 W/kg

Maximum value of SAR (interpolated) = 2.61 W/kg

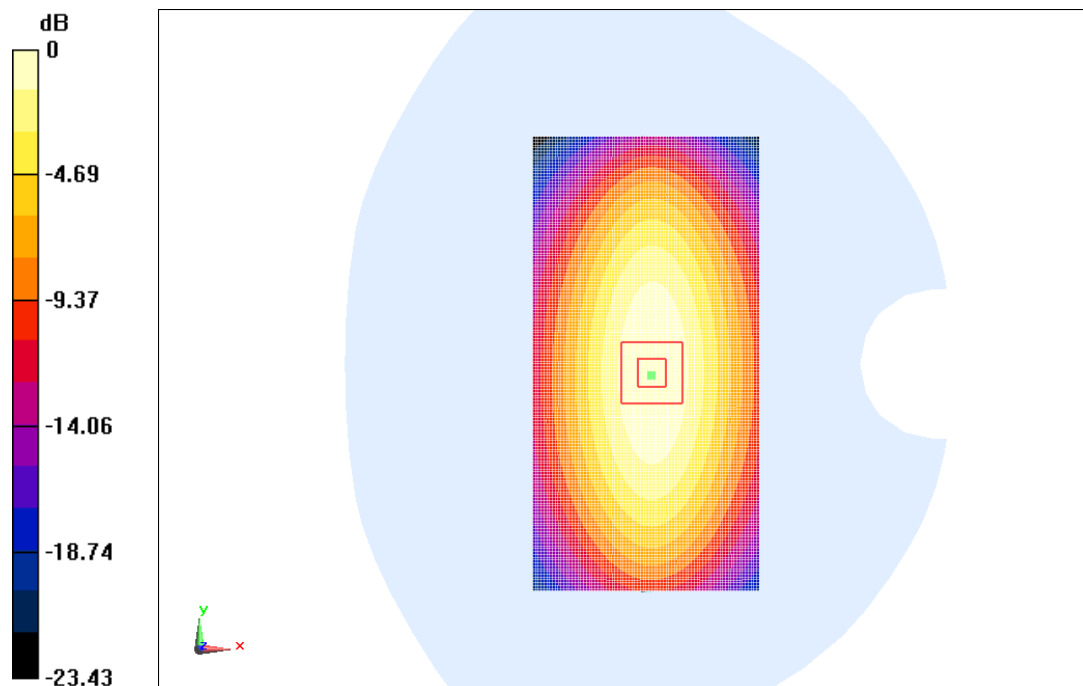
System Validation /Zoom Scan (7x7x7)/Cube 0: Measurement grid: dx=5mm, dy=5mm, dz=5mm

Reference Value = 53.004 V/m; Power Drift = -0.11 dB

Peak SAR (extrapolated) = 3.562 W/kg

SAR(1 g) = 2.43 W/kg; SAR(10 g) = 1.58 W/kg

Maximum value of SAR (measured) = 2.62 W/kg



0 dB = 2.61 W/kg = 8.33 dB W/kg

Fig.B.1 validation 835MHz 250mW

835MHz

Date: 2013-11-10

Electronics: DAE4 Sn771

Medium: Body 850 MHz

Medium parameters used: $f = 835 \text{ MHz}$; $\sigma = 0.961 \text{ mho/m}$; $\epsilon_r = 55.79$; $\rho = 1000 \text{ kg/m}^3$

Ambient Temperature: 22.5°C Liquid Temperature: 22.0°C

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

Probe: EX3DV4 - SN3846 ConvF(8.73, 8.73, 8.73)

System Validation /Area Scan (81x171x1): Measurement grid: $dx=10\text{mm}$, $dy=10\text{mm}$

Reference Value = 46.683 V/m ; Power Drift = 0.13 dB

Fast SAR: SAR(1 g) = 2.42 W/kg ; SAR(10 g) = 1.61 W/kg

Maximum value of SAR (interpolated) = 2.61 W/kg

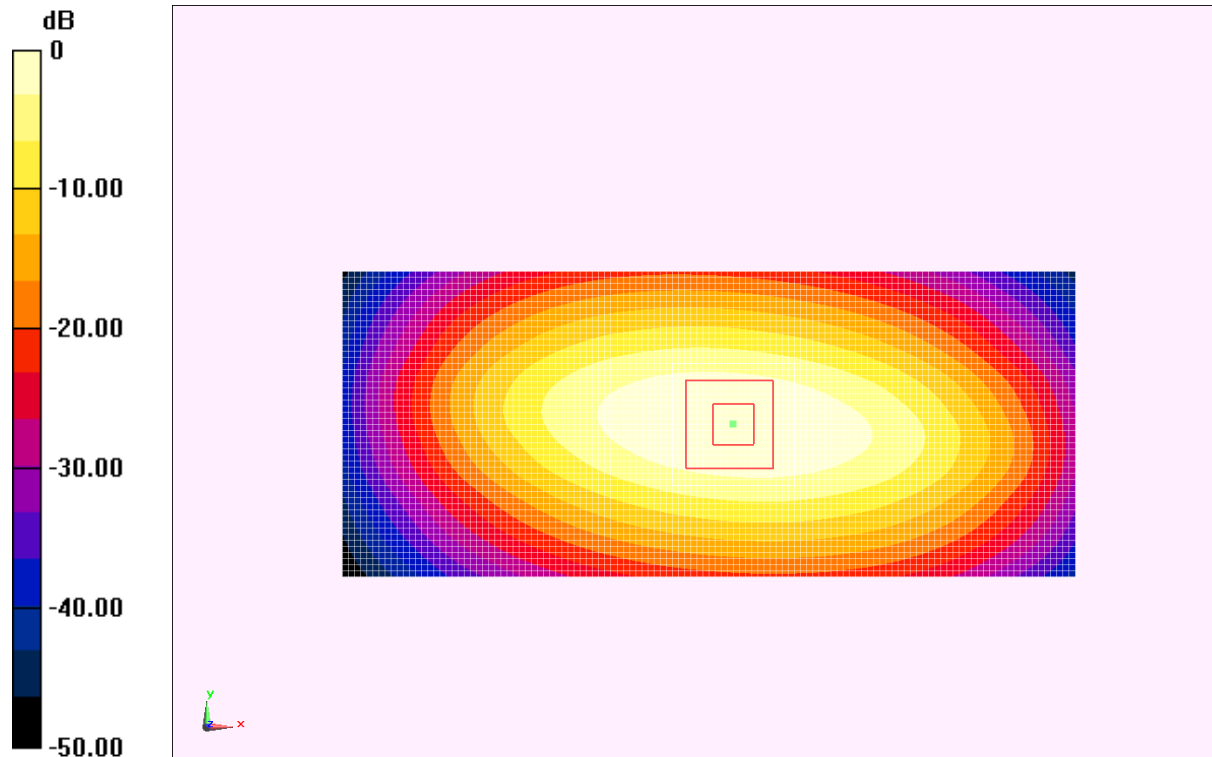
System Validation /Zoom Scan (7x7x7)/Cube 0: Measurement grid: $dx=5\text{mm}$, $dy=5\text{mm}$, $dz=5\text{mm}$

Reference Value = 46.683 V/m ; Power Drift = 0.13 dB

Peak SAR (extrapolated) = 3.60 W/kg

SAR(1 g) = 2.40 W/kg ; SAR(10 g) = 1.59 W/kg

Maximum value of SAR (measured) = 2.59 W/kg



0 dB = 2.61 W/kg = 8.33 dB W/kg

Fig.B.2 validation 835MHz 250mW

1750MHz

Date: 2013-11-11

Electronics: DAE4 Sn771

Medium: Head 1750 MHz

Medium parameters used: $f=1750$ MHz; $\sigma = 1.387$ mho/m; $\epsilon_r = 40.62$; $\rho = 1000$ kg/m³

Ambient Temperature: 22.4°C Liquid Temperature: 21.9°C

Communication System: CW Frequency: 1750 MHz Duty Cycle: 1:1

Probe: EX3DV4 - SN3846 ConvF(7.85, 7.85, 7.85)

System Validation/Area Scan (81x121x1): Measurement grid: $dx=10$ mm, $dy=10$ mm

Reference Value = 93.579 V/m; Power Drift = -0.09 dB

Fast SAR: SAR(1 g) = 9.36 W/kg; SAR(10 g) = 4.98 W/kg

Maximum value of SAR (interpolated) = 10.5 W/kg

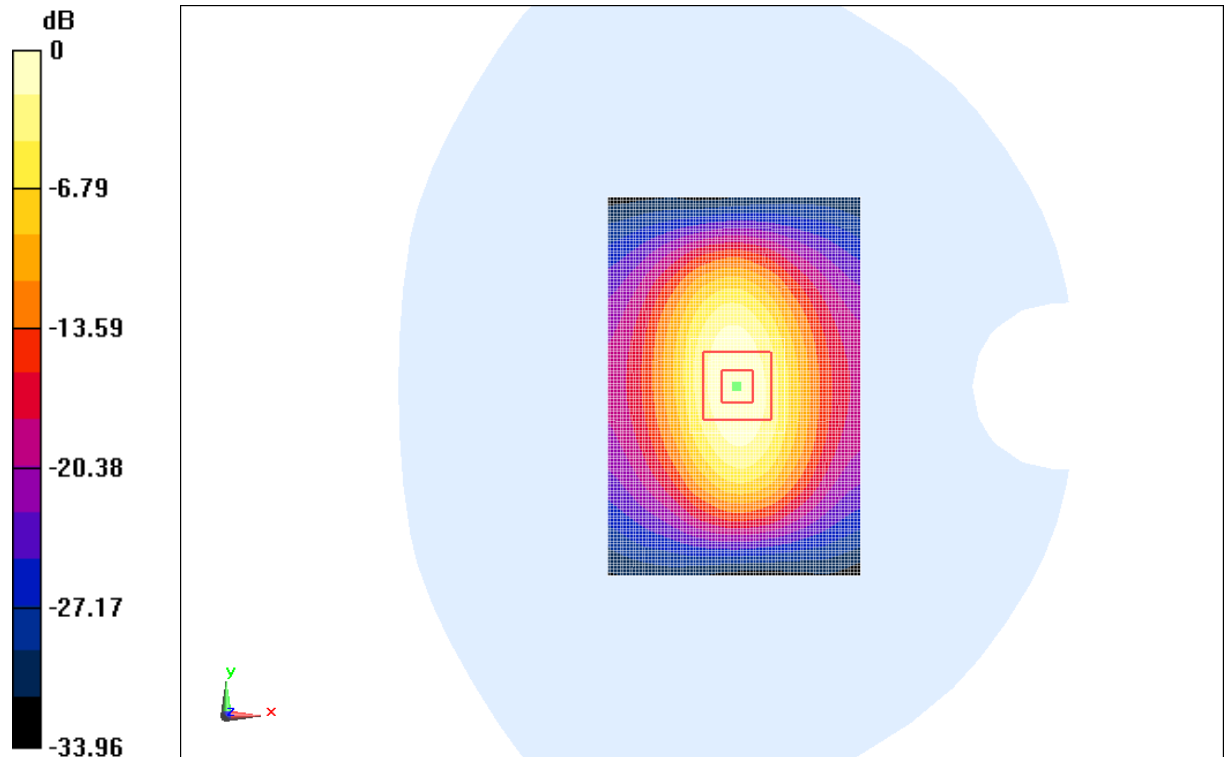
System Validation/Zoom Scan (7x7x7)/Cube 0: Measurement grid: $dx=5$ mm, $dy=5$ mm, $dz=5$ mm

Reference Value = 93.579 V/m; Power Drift = -0.09 dB

Peak SAR (extrapolated) = 16.43 W/kg

SAR(1 g) = 9.33 W/kg; SAR(10 g) = 4.97 W/kg

Maximum value of SAR (measured) = 10.5 W/kg



0 dB = 10.5 W/kg = 20.42 dB W/kg

Fig.B.3 validation 1750MHz 250mW

1750MHz

Date: 2013-11-11

Electronics: DAE4 Sn771

Medium: Body 1750 MHz

Medium parameters used: $f=1750$ MHz; $\sigma = 1.514$ mho/m; $\epsilon_r = 52.35$; $\rho = 1000$ kg/m³

Ambient Temperature: 22.4°C Liquid Temperature: 21.9°C

Communication System: CW Frequency: 1750 MHz Duty Cycle: 1:1

Probe: EX3DV4 - SN3846 ConvF(7.56, 7.56, 7.56)

System Validation/Area Scan (81x121x1): Measurement grid: $dx=10$ mm, $dy=10$ mm

Reference Value = 93.909 V/m; Power Drift = -0.07 dB

Fast SAR: SAR(1 g) = 9.30 W/kg; SAR(10 g) = 5.04 W/kg

Maximum value of SAR (interpolated) = 10.6 W/kg

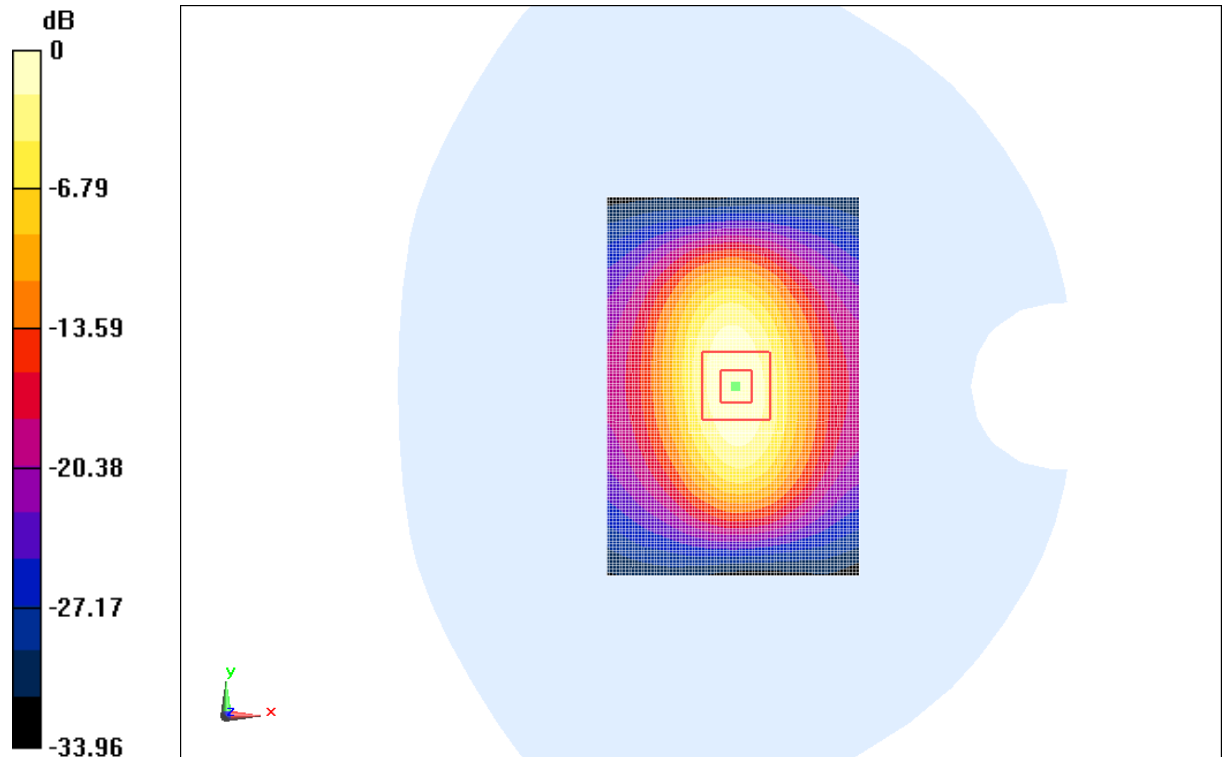
System Validation/Zoom Scan (7x7x7)/Cube 0: Measurement grid: $dx=5$ mm, $dy=5$ mm, $dz=5$ mm

Reference Value = 93.909 V/m; Power Drift = -0.07 dB

Peak SAR (extrapolated) = 14.92 W/kg

SAR(1 g) = 9.27 W/kg; SAR(10 g) = 5.02 W/kg

Maximum value of SAR (measured) = 10.6 W/kg



0 dB = 10.6 W/kg = 20.51 dB W/kg

Fig.B.4 validation 1750MHz 250mW

1900MHz

Date: 2013-11-12

Electronics: DAE4 Sn771

Medium: Head 1900 MHz

Medium parameters used: $f = 1900 \text{ MHz}$; $\sigma = 1.422 \text{ mho/m}$; $\epsilon_r = 39.27$; $\rho = 1000 \text{ kg/m}^3$

Ambient Temperature: 22.4°C Liquid Temperature: 21.9°C

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

Probe: EX3DV4 - SN3846 ConvF(7.57, 7.57, 7.57)

System Validation/Area Scan (81x121x1): Measurement grid: $dx=10\text{mm}$, $dy=10\text{mm}$

Reference Value = 95.612 V/m ; Power Drift = 0.10 dB

Fast SAR: SAR(1 g) = 9.80 W/kg ; SAR(10 g) = 5.23 W/kg

Maximum value of SAR (interpolated) = 11.1 W/kg

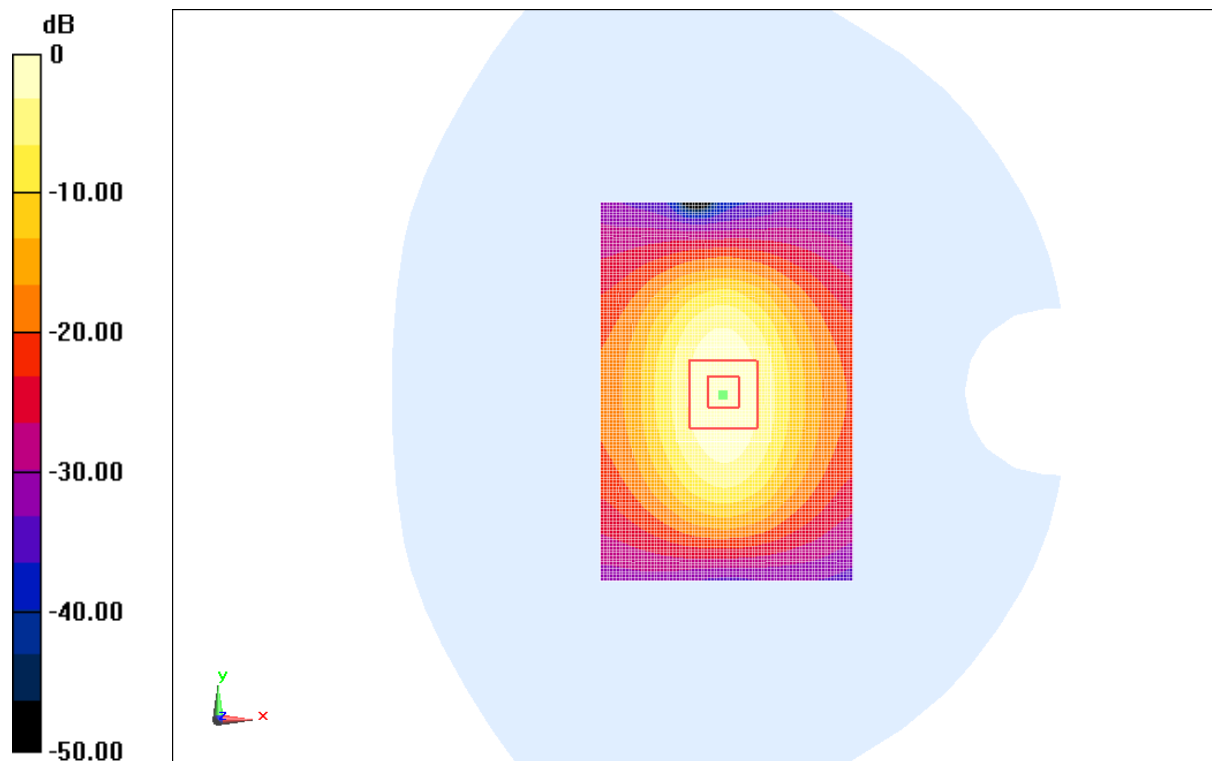
System Validation/Zoom Scan (7x7x7)/Cube 0: Measurement grid: $dx=5\text{mm}$, $dy=5\text{mm}$, $dz=5\text{mm}$

Reference Value = 95.612 V/m ; Power Drift = 0.10 dB

Peak SAR (extrapolated) = 18.14 W/kg

SAR(1 g) = 9.71 W/kg ; SAR(10 g) = 5.16 W/kg

Maximum value of SAR (measured) = 11.0 W/kg



$0 \text{ dB} = 11.1 \text{ W/kg} = 20.91 \text{ dB W/kg}$

Fig.B.5 validation 1900MHz 250mW

1900MHz

Date: 2013-11-12

Electronics: DAE4 Sn771

Medium: Body 1900 MHz

Medium parameters used: $f = 1900 \text{ MHz}$; $\sigma = 1.545 \text{ mho/m}$; $\epsilon_r = 51.99$; $\rho = 1000 \text{ kg/m}^3$

Ambient Temperature: 22.4°C Liquid Temperature: 21.9°C

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

Probe: EX3DV4 - SN3846 ConvF(7.03, 7.03, 7.03)

System Validation/Area Scan (81x121x1): Measurement grid: $dx=10\text{mm}$, $dy=10\text{mm}$

Reference Value = 83.532 V/m ; Power Drift = -0.07 dB

Fast SAR: SAR(1 g) = 10.0 W/kg ; SAR(10 g) = 5.29 W/kg

Maximum value of SAR (interpolated) = 11.4 W/kg

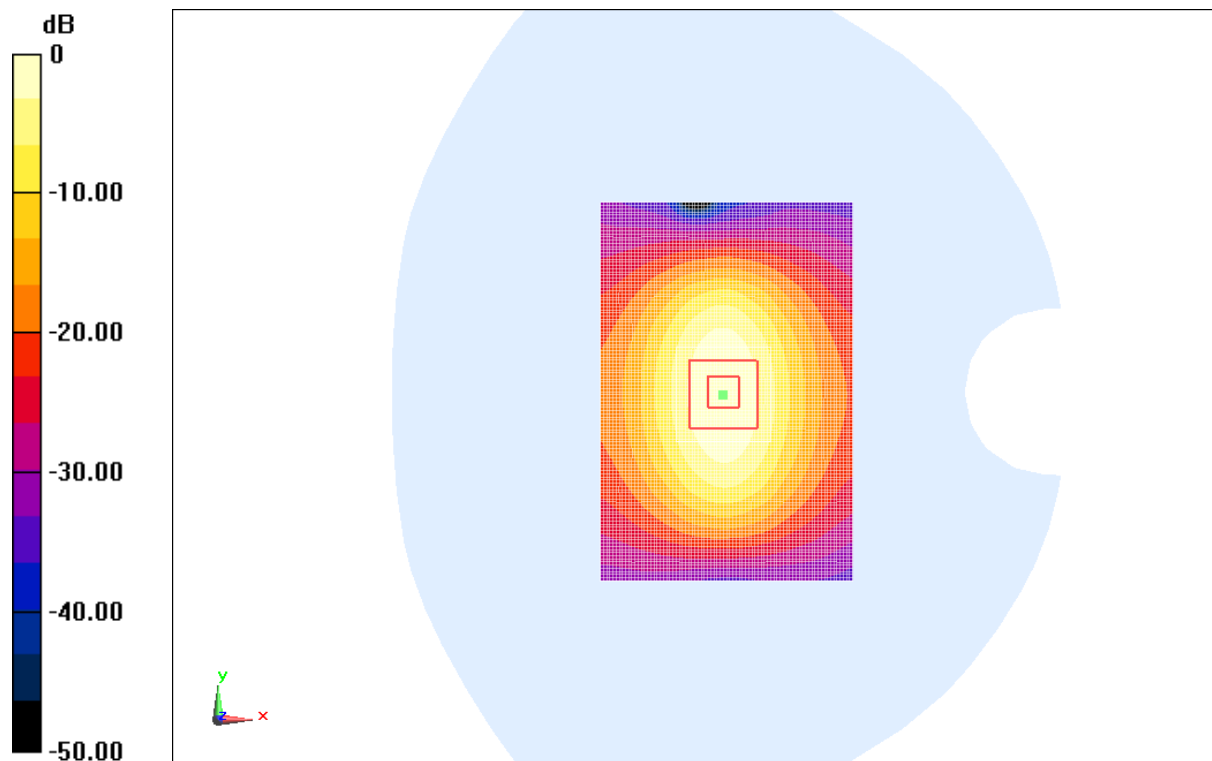
System Validation/Zoom Scan (7x7x7)/Cube 0: Measurement grid: $dx=5\text{mm}$, $dy=5\text{mm}$, $dz=5\text{mm}$

Reference Value = 83.532 V/m ; Power Drift = -0.07 dB

Peak SAR (extrapolated) = 16.6 W/kg

SAR(1 g) = 10.1 W/kg ; SAR(10 g) = 5.36 W/kg

Maximum value of SAR (measured) = 11.5 W/kg



0 dB = 11.4 W/kg = 21.14 dB W/kg

Fig.B.6 validation 1900MHz 250mW

2450MHz

Date: 2013-11-14

Electronics: DAE4 Sn771

Medium: Head 2450 MHz

Medium parameters used: $f = 2450 \text{ MHz}$; $\sigma = 1.826 \text{ mho/m}$; $\epsilon_r = 38.43$; $\rho = 1000 \text{ kg/m}^3$

Ambient Temperature: 22.4°C Liquid Temperature: 21.9°C

Communication System: CW Frequency: 2450 MHz Duty Cycle: 1:1

Probe: EX3DV4 - SN3846 ConvF(6.78, 6.78, 6.78)

System Validation /Area Scan (81x101x1): Measurement grid: $dx=10\text{mm}$, $dy=10\text{mm}$
Maximum value of SAR (interpolated) = 15.0 W/kg

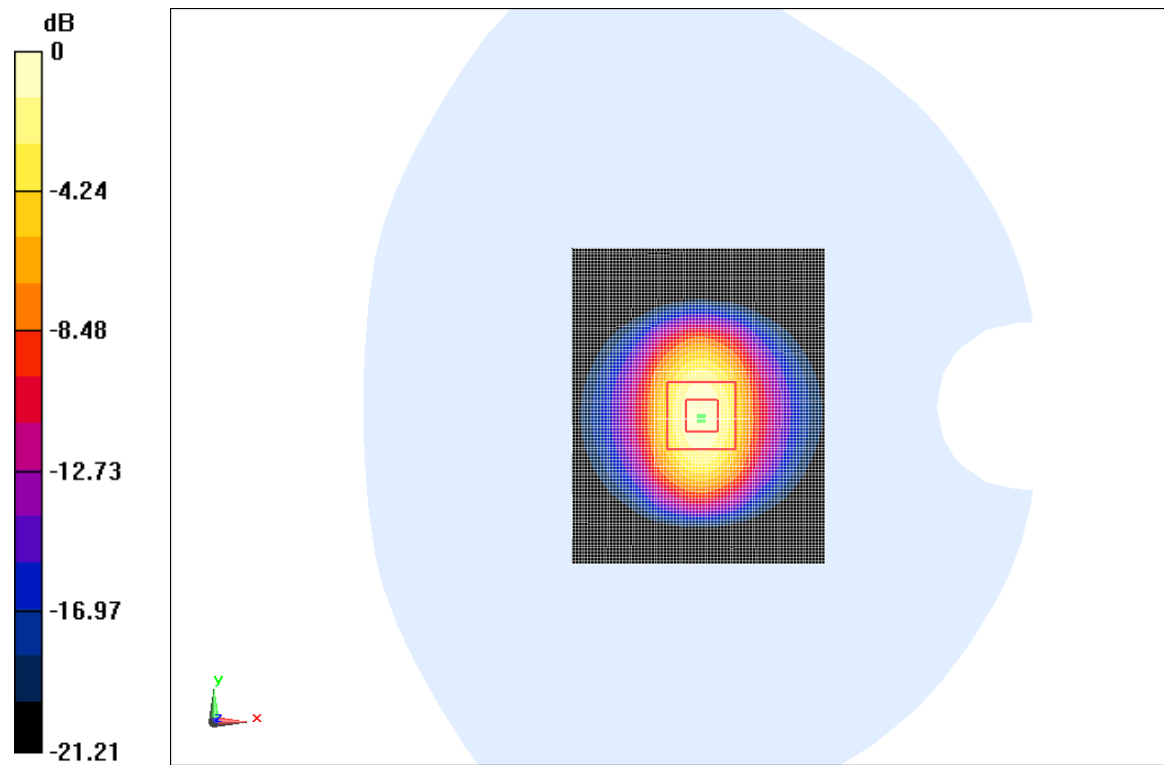
System Validation /Zoom Scan (7x7x7)/Cube 0: Measurement grid: $dx=5\text{mm}$, $dy=5\text{mm}$, $dz=5\text{mm}$

Reference Value = 96.218 V/m ; Power Drift = -0.08 dB

Peak SAR (extrapolated) = 26.11 W/kg

SAR(1 g) = 13.0 W/kg ; SAR(10 g) = 6.14 W/kg

Maximum value of SAR (measured) = 14.9 W/kg



0 dB = 15.0 W/kg = 23.52 dB W/kg

Fig.B.7 validation 2450MHz 250mW

2450MHz

Date: 2013-11-14

Electronics: DAE4 Sn771

Medium: Body 2450 MHz

Medium parameters used: $f = 2450 \text{ MHz}$; $\sigma = 1.958 \text{ mho/m}$; $\epsilon_r = 53.19$; $\rho = 1000 \text{ kg/m}^3$

Ambient Temperature: 22.4°C Liquid Temperature: 21.9°C

Communication System: CW Frequency: 2450 MHz Duty Cycle: 1:1

Probe: EX3DV4 - SN3846 ConvF(6.73, 6.73, 6.73)

System Validation/Area Scan (81x101x1): Measurement grid: $dx=10\text{mm}$, $dy=10\text{mm}$
Maximum value of SAR (interpolated) = 14.8 W/kg

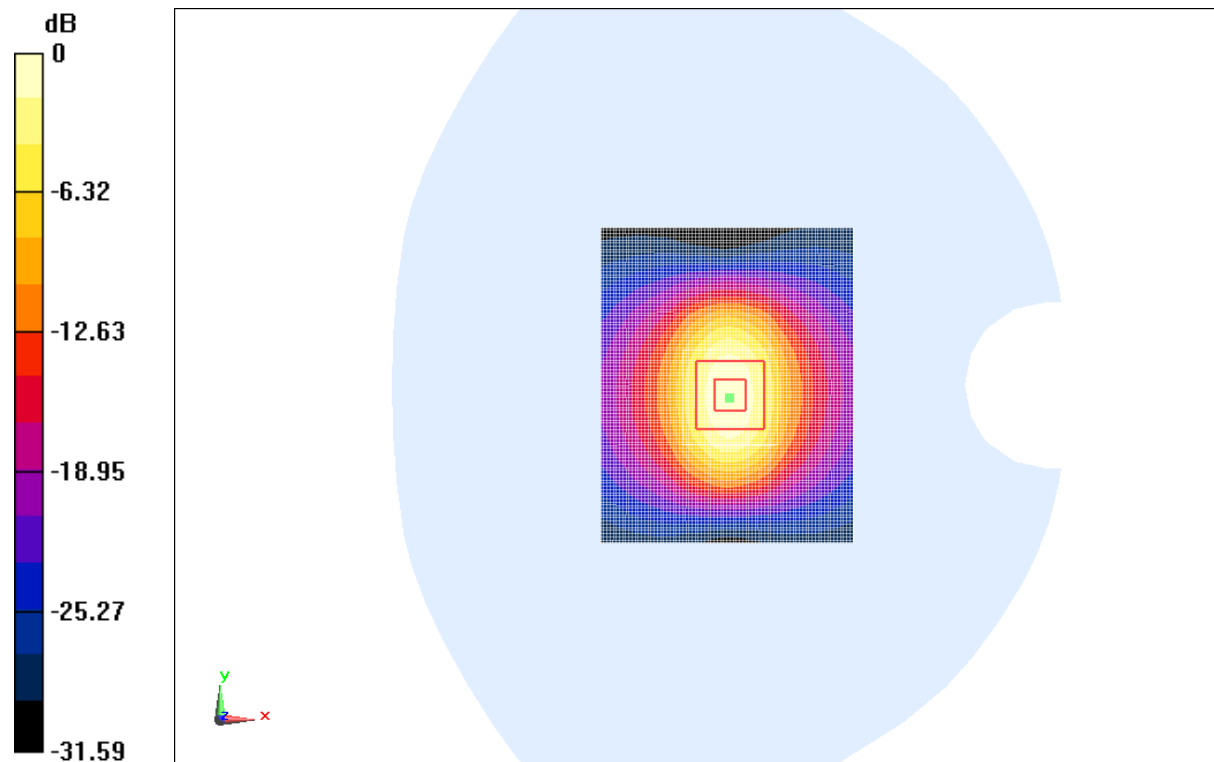
System Validation/Zoom Scan (7x7x7)/Cube 0: Measurement grid: $dx=5\text{mm}$, $dy=5\text{mm}$, $dz=5\text{mm}$

Reference Value = 94.789 V/m ; Power Drift = 0.06 dB

Peak SAR (extrapolated) = 25.95 W/kg

SAR(1 g) = 12.8 W/kg ; SAR(10 g) = 5.99 W/kg

Maximum value of SAR (measured) = 14.7 W/kg



$0 \text{ dB} = 14.8 \text{ W/kg} = 23.41 \text{ dB W/kg}$

Fig.B.8 validation 2450MHz 250mW

2600MHz

Date: 2013-11-13

Electronics: DAE4 Sn771

Medium: Head 2600 MHz

Medium parameters used: $f = 2600 \text{ MHz}$; $\sigma = 1.977 \text{ mho/m}$; $\epsilon_r = 38.63$; $\rho = 1000 \text{ kg/m}^3$

Ambient Temperature: 22.5°C Liquid Temperature: 22.0°C

Communication System: CW Frequency: 2600 MHz Duty Cycle: 1:1

Probe: EX3DV4 - SN3846 ConvF(6.68, 6.68, 6.68)

System Validation /Area Scan (81x121x1): Measurement grid: $dx=10\text{mm}$, $dy=10\text{mm}$
Maximum value of SAR (interpolated) = 16.4 mW/g

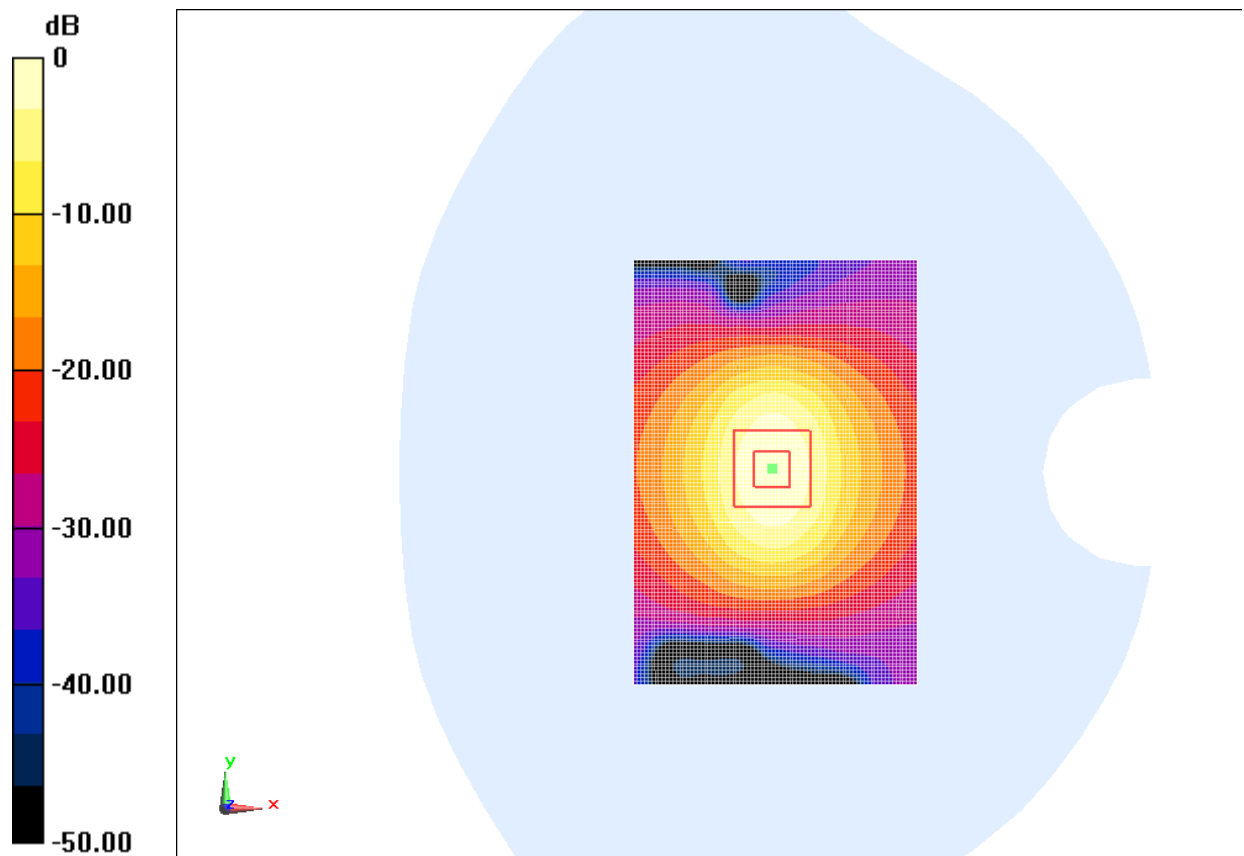
System Validation /Zoom Scan (7x7x7)/Cube 0: Measurement grid: $dx=5\text{mm}$,
 $dy=5\text{mm}$, $dz=5\text{mm}$

Reference Value = 90.933 V/m ; Power Drift = 0.11 dB

Peak SAR (extrapolated) = 31.03 mW/g

SAR(1 g) = 14.2 mW/g ; SAR(10 g) = 6.52 mW/g

Maximum value of SAR (measured) = 16.3 mW/g



$0 \text{ dB} = 16.4 \text{ mW/g} = 24.30 \text{ dB mW/g}$

Fig.B.9 validation 2600MHz 250mW

2600MHz

Date: 2013-11-13

Electronics: DAE4 Sn771

Medium: Body 2600 MHz

Medium parameters used: $f = 2600$ MHz; $\sigma = 2.187$ mho/m; $\epsilon_r = 51.68$; $\rho = 1000$ kg/m³

Ambient Temperature: 22.5°C Liquid Temperature: 22.0°C

Communication System: CW Frequency: 2600 MHz Duty Cycle: 1:1

Probe: EX3DV4 - SN3846 ConvF(6.59, 6.59, 6.59)

System Validation /Area Scan (81x121x1): Measurement grid: dx=10mm, dy=10mm
Maximum value of SAR (interpolated) = 16.6 mW/g

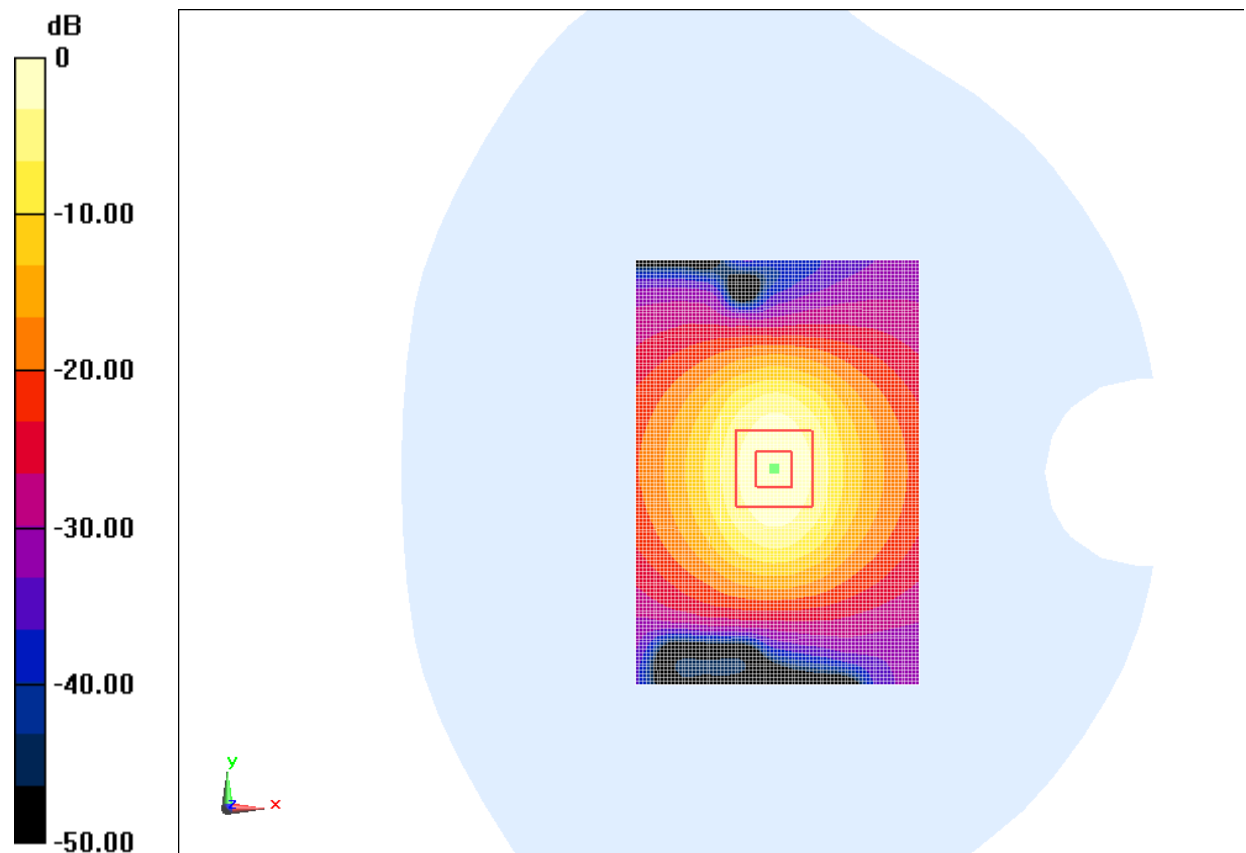
System Validation /Zoom Scan (7x7x7)/Cube 0: Measurement grid: dx=5mm, dy=5mm, dz=5mm

Reference Value = 92.087 V/m; Power Drift = -0.09 dB

Peak SAR (extrapolated) = 31.14 mW/g

SAR(1 g) = 14.3 mW/g; SAR(10 g) = 6.34 mW/g

Maximum value of SAR (measured) = 16.5 mW/g



0 dB = 16.6 mW/g = 24.40 dB mW/g

Fig.B.10 validation 2600MHz 250mW

5200MHz

Date: 2013-11-15

Electronics: DAE4 Sn771

Medium: Head 5200 MHz

Medium parameters used: $f = 5200$ MHz; $\sigma = 4.626$ mho/m; $\epsilon_r = 36.15$; $\rho = 1000$ kg/m³

Ambient Temperature: 22.3°C Liquid Temperature: 21.8°C

Communication System: CW Frequency: 5200 MHz Duty Cycle: 1:1

Probe: EX3DV4 - SN3846 ConvF(5.25, 5.25, 5.25)

System Validation /Area Scan (91x91x1): Measurement grid: dx=10mm, dy=10mm
Maximum value of SAR (interpolated) = 9.82 W/kg

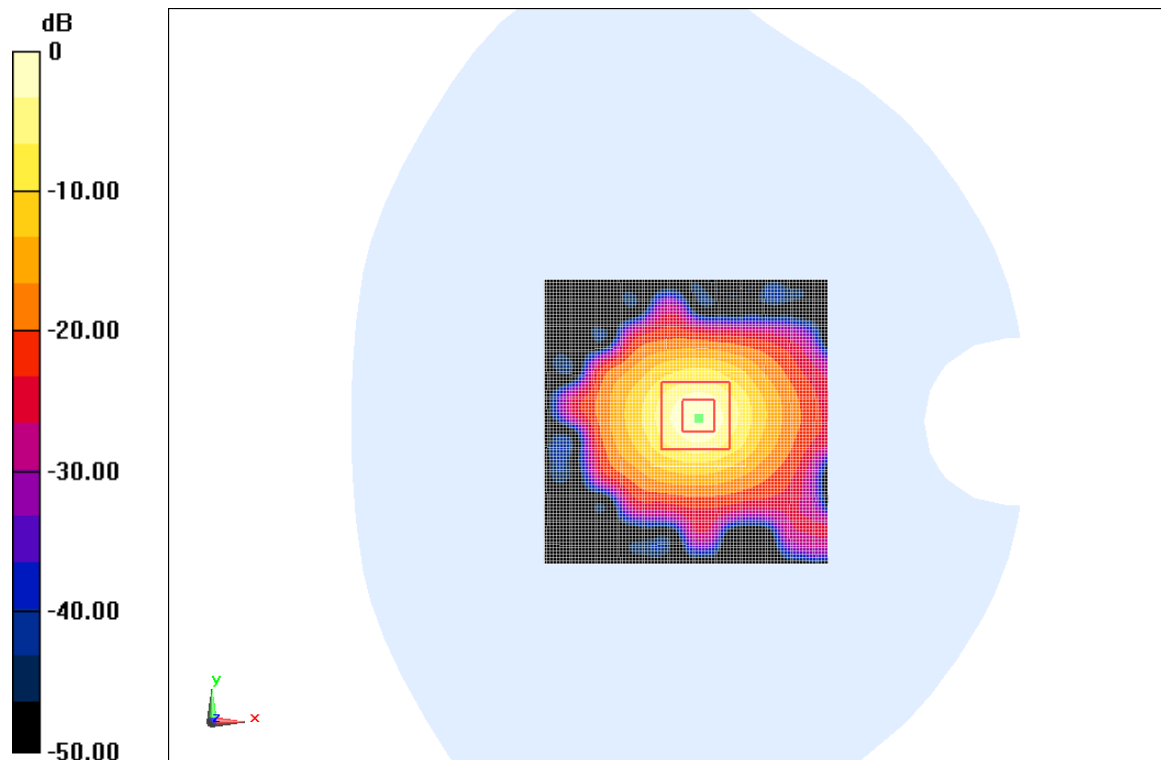
System Validation /Zoom Scan (8x8x8)/Cube 0: Measurement grid: dx=4mm, dy=4mm, dz=4mm

Reference Value = 61.991 V/m; Power Drift = 0.10 dB

Peak SAR (extrapolated) = 35.02 W/kg

SAR(1 g) = 8.16 W/kg; SAR(10 g) = 2.33 W/kg

Maximum value of SAR (measured) = 9.85 W/kg



0 dB = 9.82 W/kg = 19.84 dB W/kg

Fig.B.11 validation 5200MHz 100mW

5200MHz

Date: 2013-11-15

Electronics: DAE4 Sn771

Medium: Body 5200 MHz

Medium parameters used: $f = 5200$ MHz; $\sigma = 5.384$ mho/m; $\epsilon_r = 48.06$; $\rho = 1000$ kg/m³

Ambient Temperature: 22.3°C Liquid Temperature: 21.8°C

Communication System: CW Frequency: 5200 MHz Duty Cycle: 1:1

Probe: EX3DV4 - SN3846 ConvF(4.36, 4.36, 4.36)

System Validation /Area Scan (91x91x1): Measurement grid: dx=10mm, dy=10mm
Maximum value of SAR (interpolated) = 8.94 W/kg

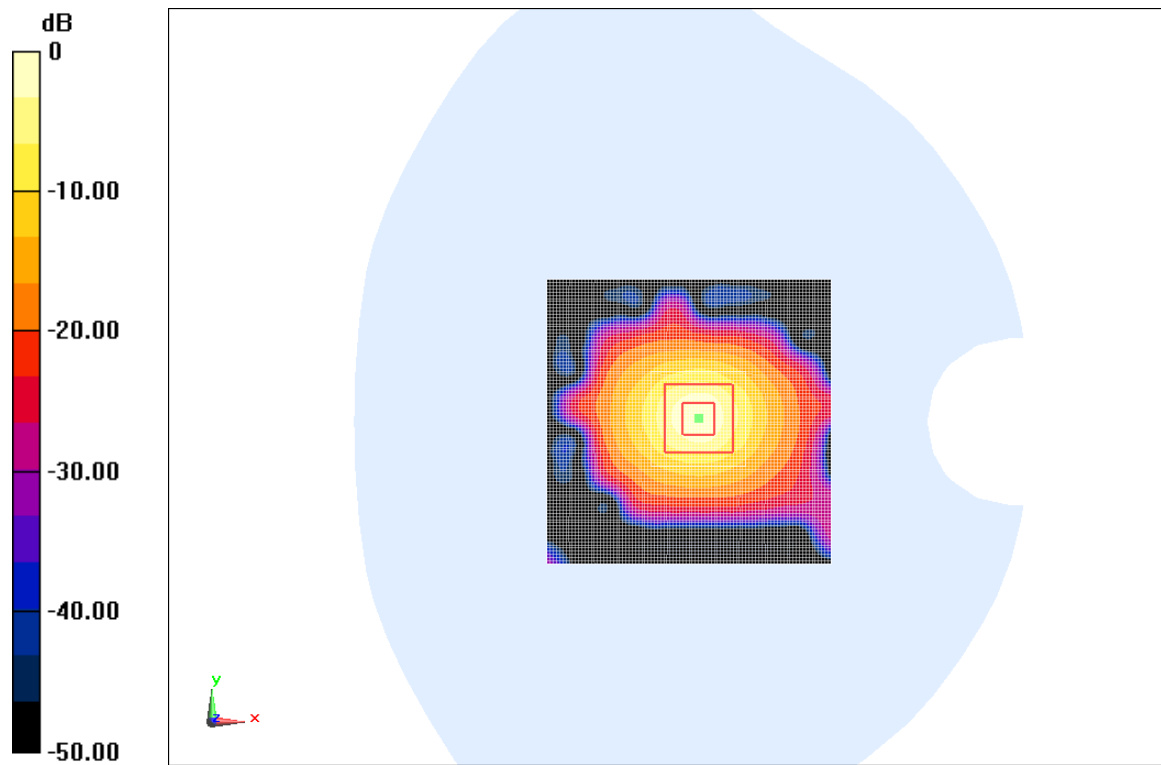
System Validation /Zoom Scan (8x8x8)/Cube 0: Measurement grid: dx=4mm, dy=4mm, dz=4mm

Reference Value = 58.704 V/m; Power Drift = -0.08 dB

Peak SAR (extrapolated) = 33.22 W/kg

SAR(1 g) = 7.33 W/kg; SAR(10 g) = 2.04 W/kg

Maximum value of SAR (measured) = 8.99 W/kg



0 dB = 8.94 W/kg = 19.03 dB W/kg

Fig.B.12 validation 5200MHz 100mW

5300MHz

Date: 2013-11-15

Electronics: DAE4 Sn771

Medium: Head 5300 MHz

Medium parameters used: $f = 5300 \text{ MHz}$; $\sigma = 4.757 \text{ mho/m}$; $\epsilon_r = 35.93$; $\rho = 1000 \text{ kg/m}^3$

Ambient Temperature: 22.3°C Liquid Temperature: 21.8°C

Communication System: CW Frequency: 5300 MHz Duty Cycle: 1:1

Probe: EX3DV4 - SN3846 ConvF(5.04, 5.04, 5.04)

System Validation /Area Scan (91x91x1): Measurement grid: $dx=10\text{mm}$, $dy=10\text{mm}$
Maximum value of SAR (interpolated) = 9.79 W/kg

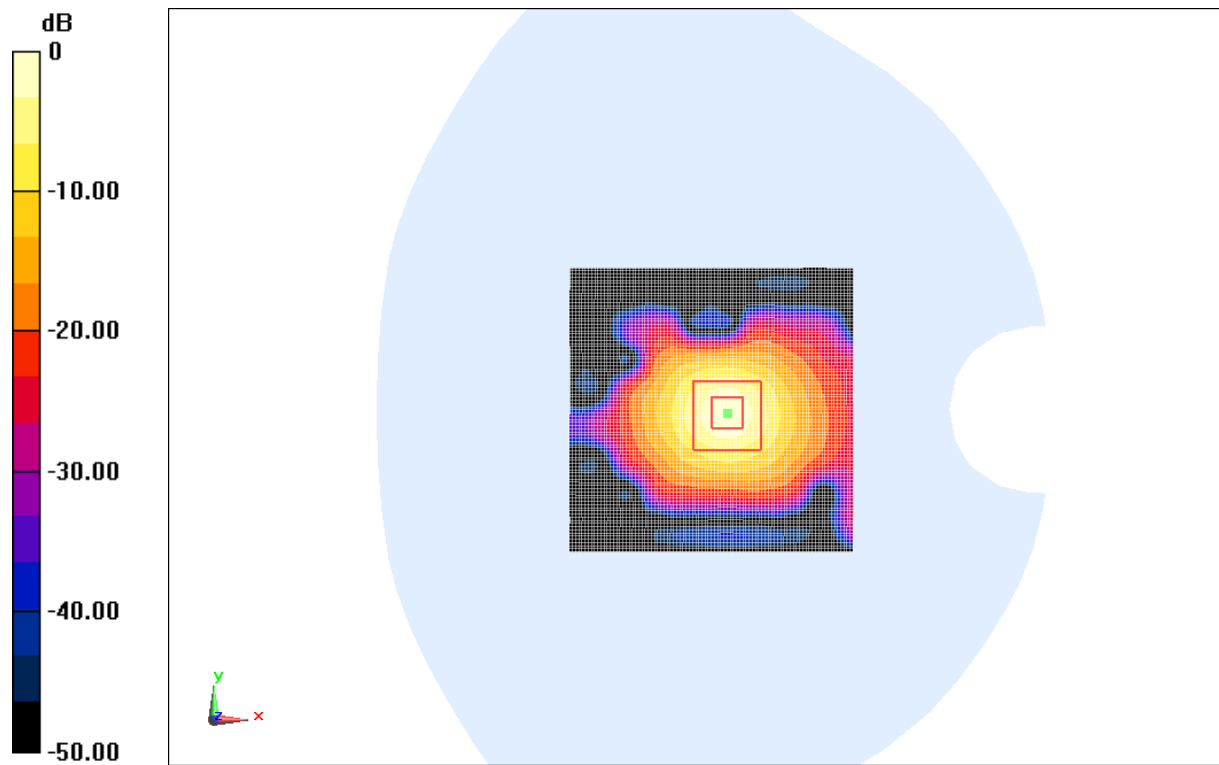
System Validation /Zoom Scan (8x8x8)/Cube 0: Measurement grid: $dx=4\text{mm}$, $dy=4\text{mm}$, $dz=4\text{mm}$

Reference Value = 61.386 V/m ; Power Drift = 0.06 dB

Peak SAR (extrapolated) = 34.97 W/kg

SAR(1 g) = 8.12 W/kg ; SAR(10 g) = 2.31 W/kg

Maximum value of SAR (measured) = 9.81 W/kg



$0 \text{ dB} = 9.79 \text{ W/kg} = 19.82 \text{ dB W/kg}$

Fig.B.13 validation 5300MHz 100mW

5300MHz

Date: 2013-11-15

Electronics: DAE4 Sn771

Medium: Body 5300 MHz

Medium parameters used: $f = 5300 \text{ MHz}$; $\sigma = 5.539 \text{ mho/m}$; $\epsilon_r = 47.84$; $\rho = 1000 \text{ kg/m}^3$

Ambient Temperature: 22.3°C Liquid Temperature: 21.8°C

Communication System: CW Frequency: 5300 MHz Duty Cycle: 1:1

Probe: EX3DV4 - SN3846 ConvF(4.17, 4.17, 4.17)

System Validation /Area Scan (91x91x1): Measurement grid: $dx=10\text{mm}$, $dy=10\text{mm}$
Maximum value of SAR (interpolated) = 9.07 W/kg

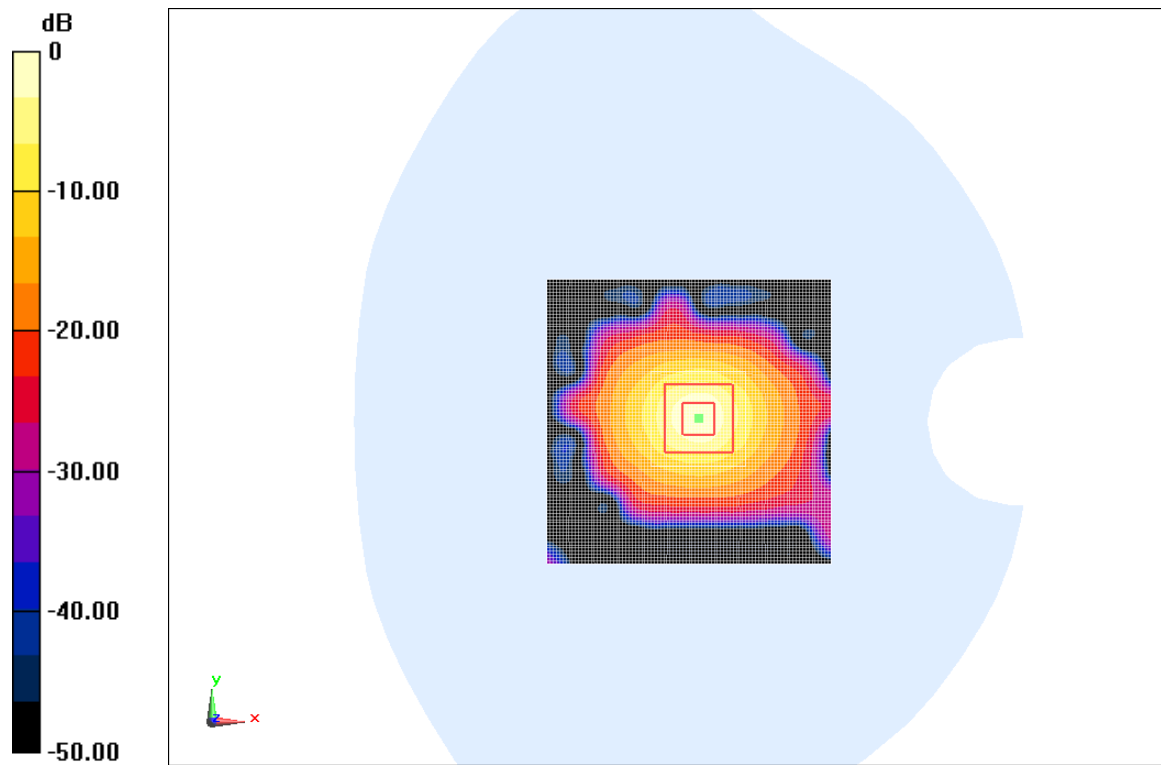
System Validation /Zoom Scan (8x8x8)/Cube 0: Measurement grid: $dx=4\text{mm}$, $dy=4\text{mm}$, $dz=4\text{mm}$

Reference Value = 61.721 V/m ; Power Drift = 0.07 dB

Peak SAR (extrapolated) = 33.34 W/kg

SAR(1 g) = 7.46 W/kg ; SAR(10 g) = 2.10 W/kg

Maximum value of SAR (measured) = 9.13 W/kg



$0 \text{ dB} = 9.07 \text{ W/kg} = 19.15 \text{ dB W/kg}$

Fig.B.14 validation 5300MHz 100mW

5600MHz

Date: 2013-11-16

Electronics: DAE4 Sn771

Medium: Head 5600 MHz

Medium parameters used: $f = 5600$ MHz; $\sigma = 5.093$ mho/m; $\epsilon_r = 35.29$; $\rho = 1000$ kg/m³

Ambient Temperature: 22.3°C Liquid Temperature: 21.8°C

Communication System: CW Frequency: 5600 MHz Duty Cycle: 1:1

Probe: EX3DV4 - SN3846 ConvF(4.52, 4.52, 4.52)

System Validation /Area Scan (91x91x1): Measurement grid: dx=10mm, dy=10mm
Maximum value of SAR (interpolated) = 10.2 W/kg

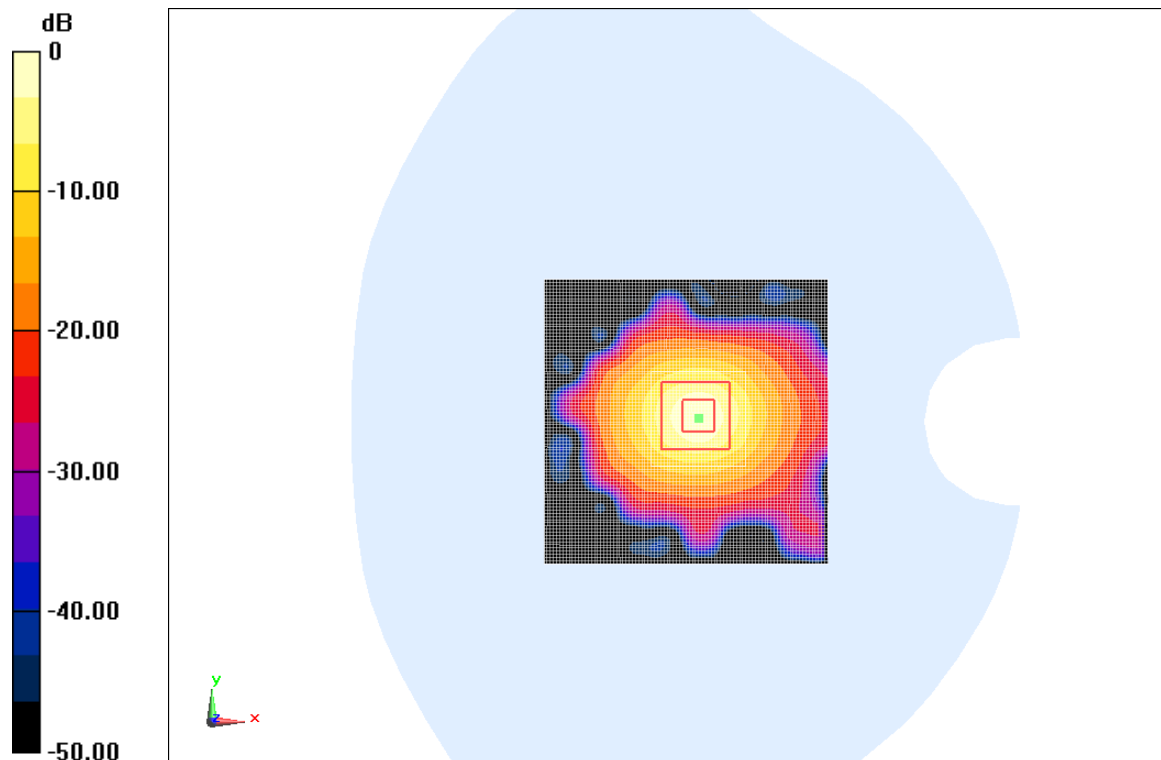
System Validation /Zoom Scan (8x8x8)/Cube 0: Measurement grid: dx=4mm, dy=4mm, dz=4mm

Reference Value = 62.055 V/m; Power Drift = 0.05 dB

Peak SAR (extrapolated) = 35.35 W/kg

SAR(1 g) = 8.48 W/kg; SAR(10 g) = 2.41 W/kg

Maximum value of SAR (measured) = 10.2 W/kg



0 dB = 10.2 W/kg = 20.17 dB W/kg

Fig.B.15 validation 5600MHz 100mW