

Annex A

System performance check

1. System Performance Check for Head and Body Tissue simulating liquid
 - System Performance Check 2450 MHz Head
 - System Performance Check 5200 MHz Head
 - System Performance Check 5600 MHz Head
 - System Performance Check 5800 MHz Head
 - System Performance Check 2450 MHz Body
 - System Performance Check 5200 MHz Body
 - System Performance Check 5600 MHz Body
 - System Performance Check 5800 MHz Body

Date: 25.04.2018

Test Laboratory: Cetecom Essen

System Performance Check 2450 MHz Head250mW

DUT: D2450V2; Type: D2450V2; Serial: 993

Communication System: UID 0, CW (0); Communication System Band: D2450 (2450 MHz); Frequency: 2450 MHz;

Medium parameters used: $f = 2450$ MHz; $\sigma = 1.831$ S/m; $\epsilon_r = 40.165$; $\rho = 1000$ kg/m³

Phantom section: Flat Section

DASY Configuration:

- Probe: EX3DV4 - SN3739; ConvF(7.34, 7.34, 7.34); Calibrated: 23.01.2018;
- Sensor-Surface: 1.4mm (Mechanical Surface Detection), $z = 1.0, 31.0$
- Electronics: DAE4 Sn1233; Calibrated: 16.02.2017
- Phantom: Twin-SAM V5.0 (30deg probe tilt); Type: QD 000 P40 CD; Serial: 1639
- DASY52 52.8.8(1258); SEMCAD X 14.6.10(7373)

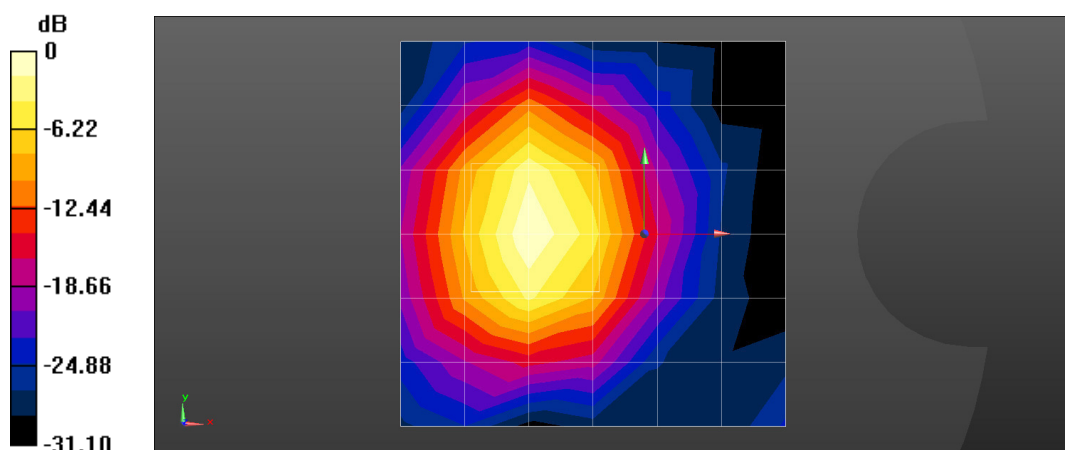
Configuration/Body/Area Scan (7x7x1): Measurement grid: $dx=15$ mm, $dy=15$ mm

Maximum value of SAR (measured) = 18.8 W/kg

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

Reference Value = 75.58 V/m; Power Drift = -0.27 dB

Maximum value of SAR (measured) = 17.3 W/kg



0 dB = 18.8 W/kg = 12.74 dBW/kg

Test Laboratory: Cetecom Essen

System Performance Check 5200 MHz Head 100mW

DUT: Dipole D5GHzV2; Type: D5GHzV2; Serial: D5GHzV2 - SN:xxx

Communication System: UID 0, CW (0); Communication System Band: D5GHz (5000.0 - 6000.0 MHz); Frequency: 5200 MHz;

Medium parameters used: $f = 5200$ MHz; $\sigma = 4.484$ S/m; $\epsilon_r = 35.043$; $\rho = 1000$ kg/m³

Phantom section: Flat Section

DASY Configuration:

- Probe: EX3DV4 - SN3739; ConvF(4.9, 4.9, 4.9); Calibrated: 23.01.2018;
- Sensor-Surface: 1.4mm (Mechanical Surface Detection), $z = 1.0, 23.0$
- Electronics: DAE4 Sn1233; Calibrated: 16.02.2017
- Phantom: Twin-SAM V5.0 (30deg probe tilt); Type: QD 000 P40 CD; Serial: xxxx
- DASY52 52.8.8(1258); SEMCAD X 14.6.10(7373)

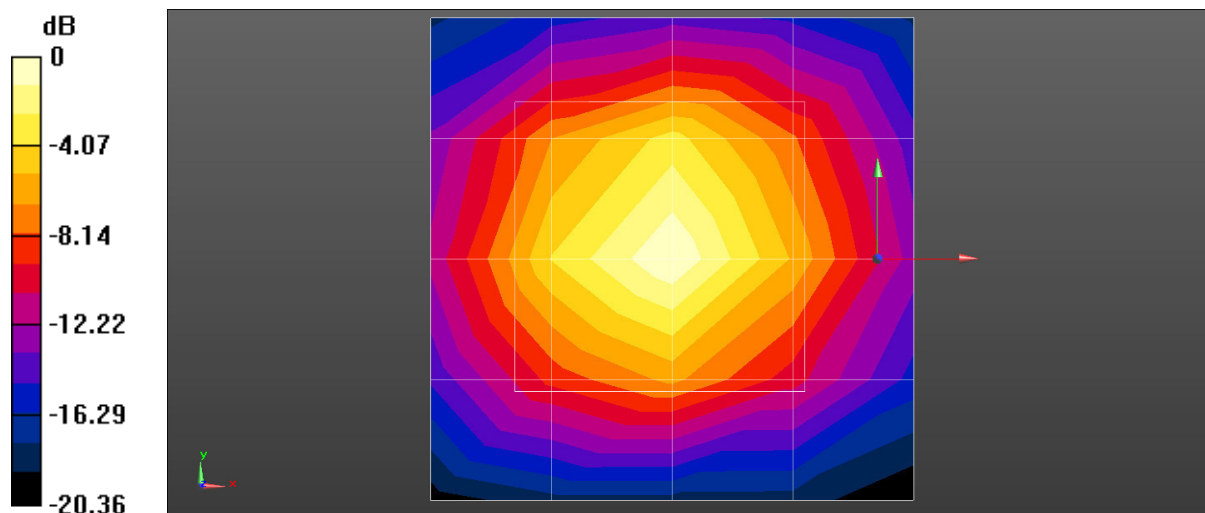
Configuration/Body/Area Scan (5x5x1): Measurement grid: $dx=10$ mm, $dy=10$ mm

Maximum value of SAR (measured) = 17.6 W/kg

Configuration/Body/Zoom Scan (7x7x12)/Cube 0: Measurement grid: $dx=4$ mm, $dy=4$ mm, $dz=2$ mm

Reference Value = 44.15 V/m; Power Drift = 0.11 dB

Maximum value of SAR (measured) = 18.3 W/kg



0 dB = 17.6 W/kg = 12.46 dBW/kg

Date: 26.04.2018

Test Laboratory: Cetecom Essen

System Performance Check 5600 MHz Head 100mW

DUT: Dipole D5GHzV2; Type: D5GHzV2; Serial: D5GHzV2 - SN:xxx

Communication System: UID 0, CW (0); Communication System Band: D5GHz (5000.0 - 6000.0 MHz); Frequency: 5600 MHz;

Medium parameters used: $f = 5600$ MHz; $\sigma = 4.901$ S/m; $\epsilon_r = 34.324$; $\rho = 1000$ kg/m³

Phantom section: Flat Section

DASY Configuration:

- Probe: EX3DV4 - SN3739; ConvF(4.47, 4.47, 4.47); Calibrated: 23.01.2018;
- Sensor-Surface: 1.4mm (Mechanical Surface Detection), $z = 1.0, 23.0$
- Electronics: DAE4 Sn1233; Calibrated: 16.02.2017
- Phantom: Twin-SAM V5.0 (30deg probe tilt); Type: QD 000 P40 CD; Serial: xxxx
- DASY52 52.8.8(1258); SEMCAD X 14.6.10(7373)

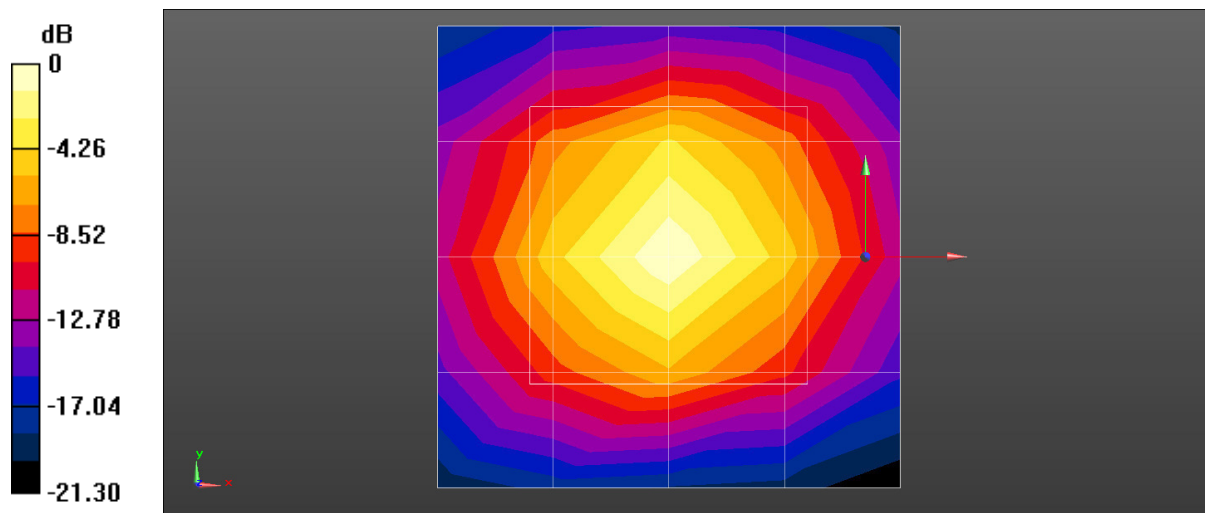
Configuration/Body/Area Scan (5x5x1): Measurement grid: $dx=10$ mm, $dy=10$ mm

Maximum value of SAR (measured) = 22.0 W/kg

Configuration/Body/Zoom Scan (7x7x12)/Cube 0: Measurement grid: $dx=4$ mm, $dy=4$ mm, $dz=2$ mm

Reference Value = 45.03 V/m; Power Drift = 0.08 dB

Maximum value of SAR (measured) = 21.2 W/kg



0 dB = 22.0 W/kg = 13.42 dBW/kg

Date: 26.04.2018

Test Laboratory: Cetecom Essen

System Performance Check 5800 MHz Head 100mW

DUT: Dipole D5GHzV2; Type: D5GHzV2; Serial: D5GHzV2 - SN:xxx

Communication System: UID 0, CW (0); Communication System Band: D5GHz (5000.0 - 6000.0 MHz); Frequency: 5800 MHz;

Medium parameters used: $f = 5800$ MHz; $\sigma = 5.113$ S/m; $\epsilon_r = 33.938$; $\rho = 1000$ kg/m³

Phantom section: Flat Section

DASY Configuration:

- Probe: EX3DV4 - SN3739; ConvF(4.54, 4.54, 4.54); Calibrated: 23.01.2018;
- Sensor-Surface: 1.4mm (Mechanical Surface Detection), $z = 1.0, 23.0$
- Electronics: DAE4 Sn1233; Calibrated: 16.02.2017
- Phantom: Twin-SAM V5.0 (30deg probe tilt); Type: QD 000 P40 CD; Serial: xxxx
- DASY52 52.8.8(1258); SEMCAD X 14.6.10(7373)

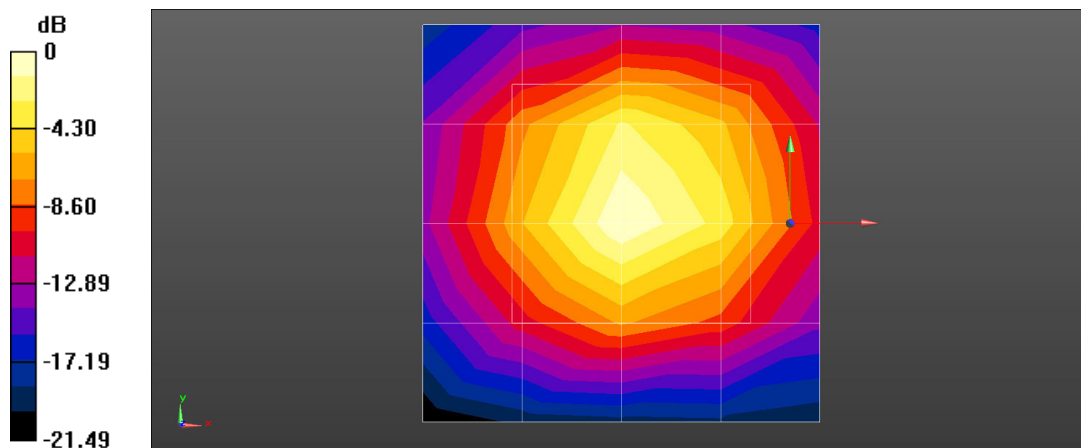
Configuration/Body/Area Scan (5x5x1): Measurement grid: $dx=10$ mm, $dy=10$ mm

Maximum value of SAR (measured) = 19.8 W/kg

Configuration/Body/Zoom Scan (7x7x12)/Cube 0: Measurement grid: $dx=4$ mm, $dy=4$ mm, $dz=2$ mm

Reference Value = 41.17 V/m; Power Drift = 0.10 dB

Maximum value of SAR (measured) = 22.7 W/kg



0 dB = 19.8 W/kg = 12.97 dBW/kg

Test Laboratory: Cetecom Essen

System Performance Check 2450 MHz Body 250mW

DUT: D2450V2; Type: D2450V2; Serial: 993

Communication System: UID 0, CW (0); Communication System Band: D2450 (2450 MHz); Frequency: 2450 MHz;
Medium parameters used: $f = 2450$ MHz; $\sigma = 2.02$ S/m; $\epsilon_r = 52.291$; $\rho = 1000$ kg/m³

Phantom section: Flat Section

DASY Configuration:

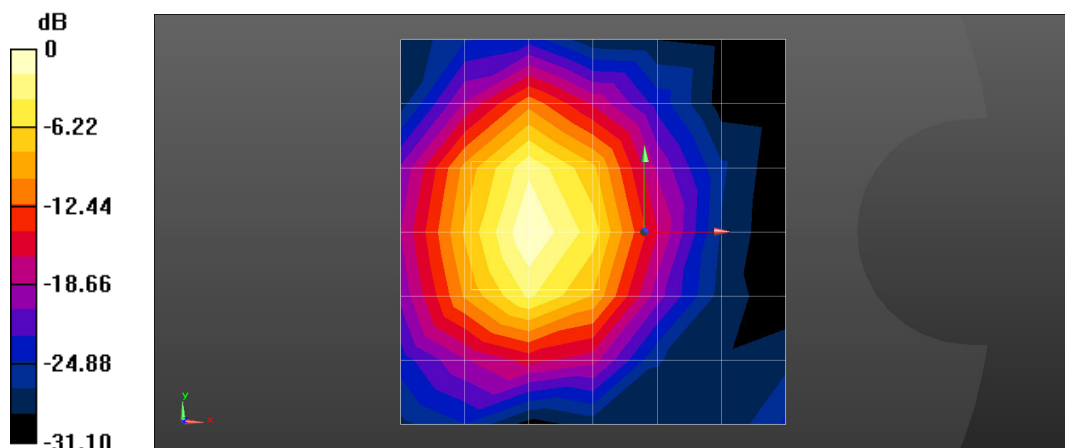
- Probe: EX3DV4 - SN3739; ConvF(4.9, 4.9, 4.9); Calibrated: 23.01.2018;
- Sensor-Surface: 1.4mm (Mechanical Surface Detection), $z = 1.0, 23.0$
- Electronics: DAE4 Sn1233; Calibrated: 16.02.2017
- Phantom: Twin-SAM right V5.0 (30deg); Type: QD 000 P40 CD; Serial: 1640
- DASY52 52.8.8(1258); SEMCAD X 14.6.10(7373)

Configuration/Body/Area Scan (7x7x1): Measurement grid:
 $dx=15$ mm, $dy=15$ mm

Maximum value of SAR (measured) = 13.2 W/kg

Configuration/Body/Zoom Scan (7x7x7)/Cube 0: Measurement grid:
 $dx=5$ mm, $dy=5$ mm, $dz=5$ mm
Reference Value = 105.3 V/m; Power Drift = -0.13 dB

Maximum value of SAR (measured) = 14.8 W/kg



Date: 30.04.2018

Test Laboratory: Cetecom Essen

System Performance Check 5200 MHz Body 100mW

DUT: Dipole D5GHzV2; Type: D5GHzV2; Serial: D5GHzV2 - SN:xxx

Communication System: UID 0, CW (0); Communication System Band: D5GHz (5000.0 - 6000.0 MHz); Frequency: 5200 MHz;

Medium parameters used: $f = 5200$ MHz; $\sigma = 5.256$ S/m; $\epsilon_r = 48.068$; $\rho = 1000$ kg/m³

Phantom section: Flat Section

DASY Configuration:

- Probe: EX3DV4 - SN3739; ConvF(4.56, 4.56, 4.56); Calibrated: 23.01.2018;
- Sensor-Surface: 1.4mm (Mechanical Surface Detection), $z = 1.0, 23.0$
- Electronics: DAE4 Sn1233; Calibrated: 16.02.2017
- Phantom: Twin-SAM right V5.0 (30deg); Type: QD 000 P40 CD; Serial: 1640
- DASY52 52.8.8(1258); SEMCAD X 14.6.10(7373)

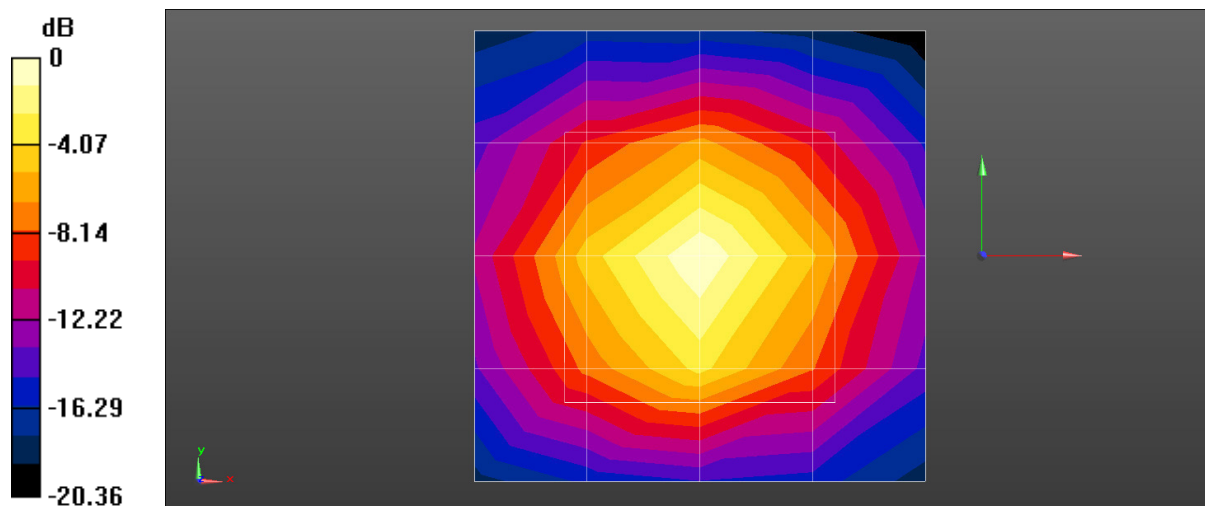
Configuration/Body/Area Scan (5x5x1): Measurement grid: $dx=10$ mm, $dy=10$ mm

Maximum value of SAR (measured) = 17.6 W/kg

Configuration/Body/Zoom Scan (7x7x12)/Cube 0: Measurement grid: $dx=4$ mm, $dy=4$ mm, $dz=2$ mm

Reference Value = 41.47 V/m; Power Drift = 0.09 dB

Maximum value of SAR (measured) = 18.3 W/kg



0 dB = 17.6 W/kg = 12.44 dBW/kg

Date: 30.04.2018

Test Laboratory: Cetecom Essen

System Performance Check 5600 MHz Body 100mW

DUT: Dipole D5GHzV2; Type: D5GHzV2; Serial: D5GHzV2 - SN:xxx

Communication System: UID 0, CW (0); Communication System Band: D5GHz (5000.0 - 6000.0 MHz); Frequency: 5600 MHz;

Medium parameters used: $f = 5600$ MHz; $\sigma = 5.788$ S/m; $\epsilon_r = 47.257$; $\rho = 1000$ kg/m³

Phantom section: Flat Section

DASY Configuration:

- Probe: EX3DV4 - SN3739; ConvF(4.09, 4.09, 4.09); Calibrated: 23.01.2018;
- Sensor-Surface: 1.4mm (Mechanical Surface Detection), $z = 1.0, 23.0$
- Electronics: DAE4 Sn1233; Calibrated: 16.02.2017
- Phantom: Twin-SAM right V5.0 (30deg); Type: QD 000 P40 CD; Serial: 1640
- DASY52 52.8.8(1258); SEMCAD X 14.6.10(7373)

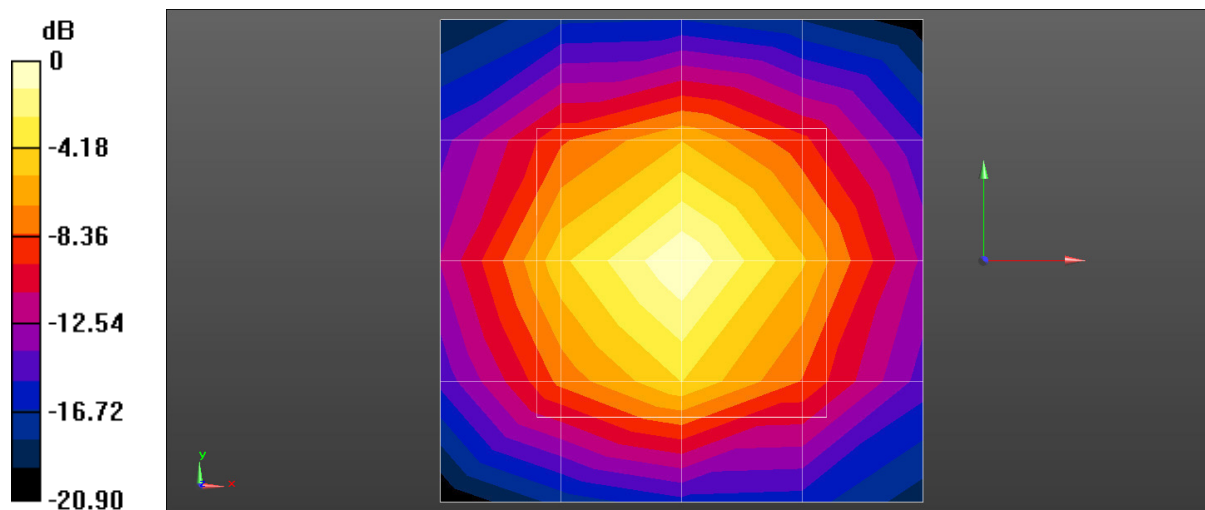
Configuration/Body/Area Scan (5x5x1): Measurement grid: $dx=10$ mm, $dy=10$ mm

Maximum value of SAR (measured) = 20.5 W/kg

Configuration/Body/Zoom Scan (7x7x12)/Cube 0: Measurement grid: $dx=4$ mm, $dy=4$ mm, $dz=2$ mm

Reference Value = 41.08 V/m; Power Drift = 0.12 dB

Maximum value of SAR (measured) = 21.0 W/kg



0 dB = 20.5 W/kg = 13.11 dBW/kg

Date: 30.04.2018

Test Laboratory: Cetecom Essen

System Performance Check 5800 MHz Body 100mW

DUT: Dipole D5GHzV2; Type: D5GHzV2; Serial: D5GHzV2 - SN:xxx

Communication System: UID 0, CW (0); Communication System Band: D5GHz (5000.0 - 6000.0 MHz); Frequency: 5800 MHz;

Medium parameters used: $f = 5800$ MHz; $\sigma = 6.063$ S/m; $\epsilon_r = 46.763$; $\rho = 1000$ kg/m³

Phantom section: Flat Section

DASY Configuration:

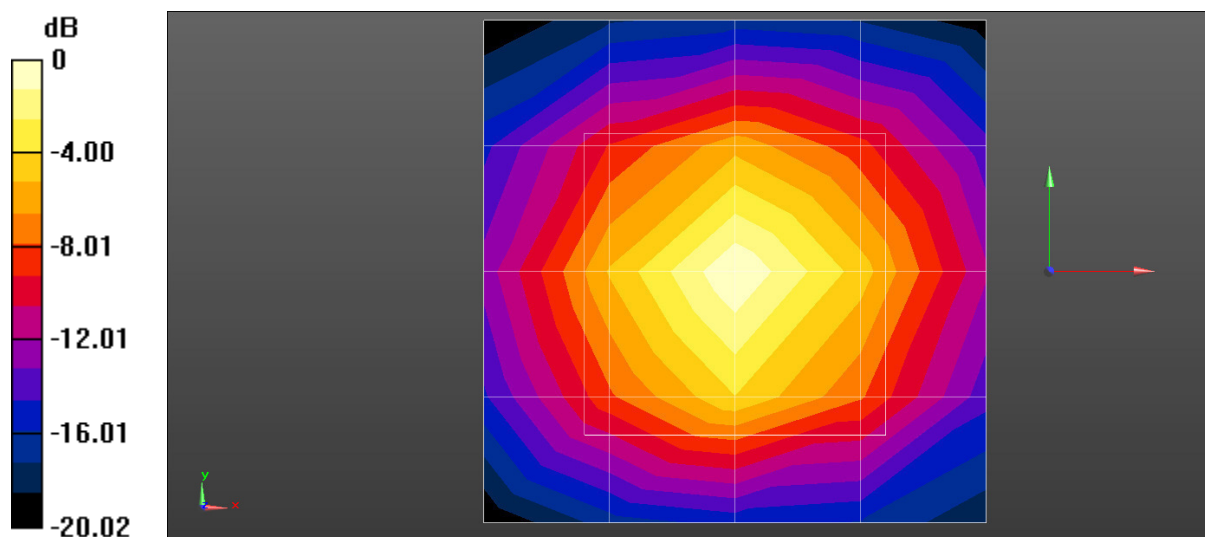
- Probe: EX3DV4 - SN3739; ConvF(4.07, 4.07, 4.07); Calibrated: 23.01.2018;
- Sensor-Surface: 1.4mm (Mechanical Surface Detection), $z = 1.0, 23.0$
- Electronics: DAE4 Sn1233; Calibrated: 16.02.2017
- Phantom: Twin-SAM right V5.0 (30deg); Type: QD 000 P40 CD; Serial: 1640
- DASY52 52.8.8(1258); SEMCAD X 14.6.10(7373)

Configuration/Body/Area Scan (5x5x1): Measurement grid: $dx=10$ mm, $dy=10$ mm

Maximum value of SAR (measured) = 20.8 W/kg

Configuration/Body/Zoom Scan (7x7x12)/Cube 0: Measurement grid: $dx=4$ mm, $dy=4$ mm, $dz=2$ mm

Reference Value = 40.20 V/m; Power Drift = -0.18 dB



0 dB = 20.8 W/kg = 13.18 dBW/kg