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; σ = 1.831 S/m; ε_r = 40.165; ρ = 1000 kg/m^3
Phantom section: Flat Section

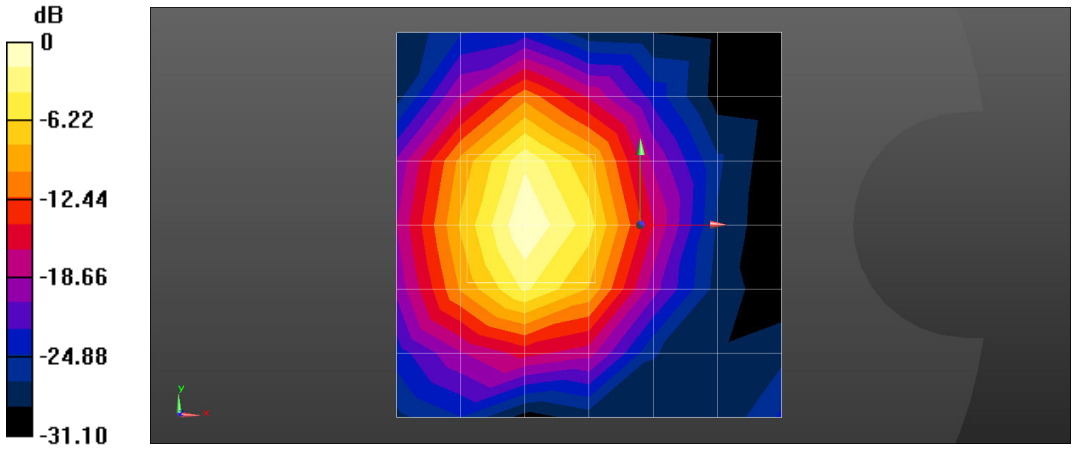
DASY Configuration:

- 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=15mm, dy=15mm

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

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

Date: 26.04.2018

Test Laboratory: Cetecom Essen

System Performance Check 5200 MHz Head 100mW

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

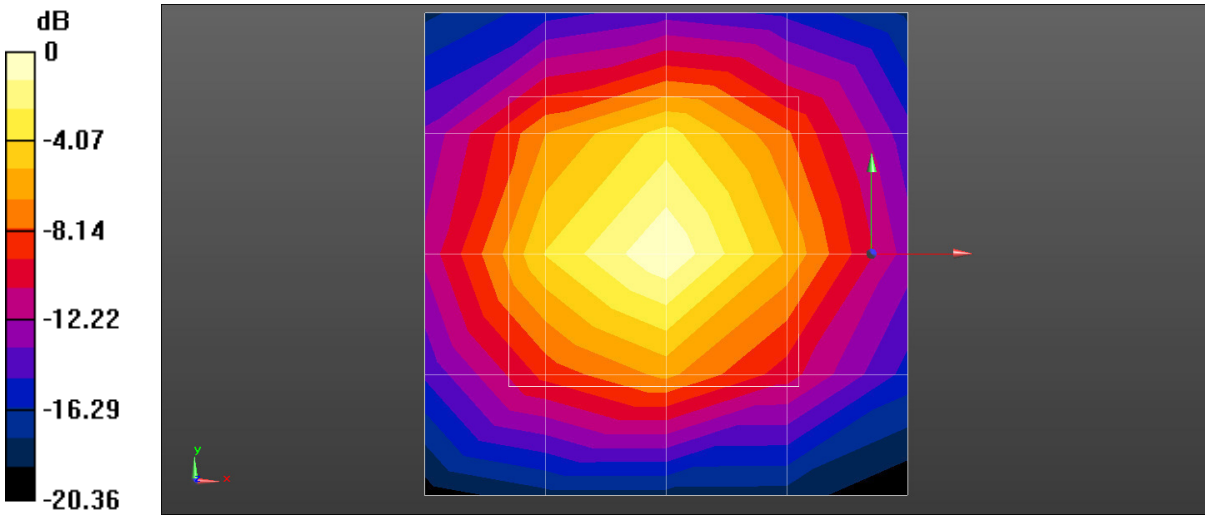
Communication System: UID 0, CW (0); Communication System Band: D5GHz (5000.0 - 6000.0 MHz); Frequency: 5200 MHz;
Medium parameters used: f = 5200 MHz; σ = 4.484 S/m; ε_r = 35.043; ρ = 1000 kg/m^3
Phantom section: Flat Section

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=10mm, dy=10mm
Maximum value of SAR (measured) = 17.6 W/kg

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

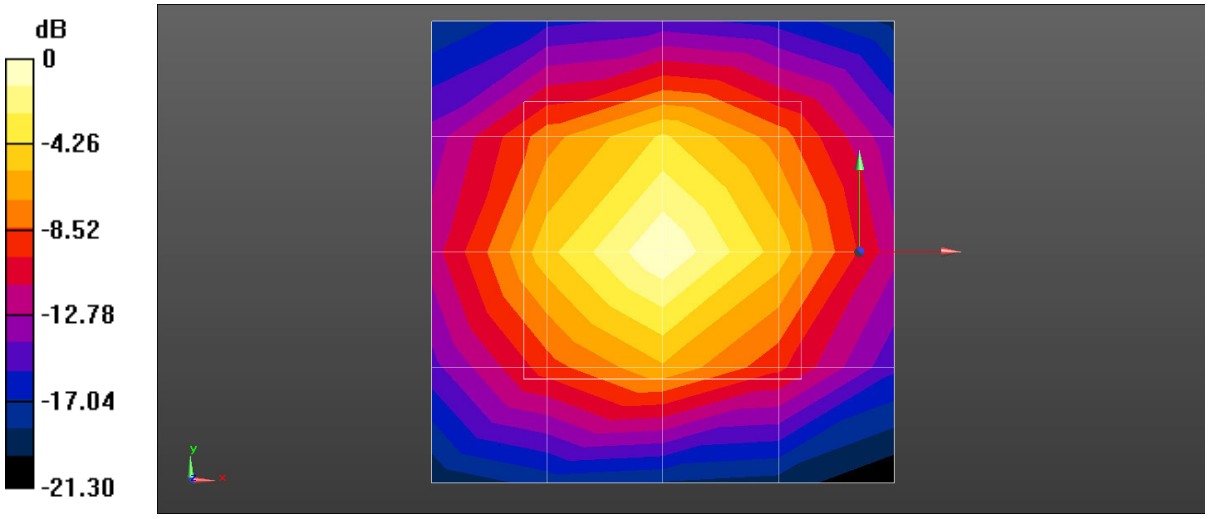
Communication System: UID 0, CW (0); Communication System Band: D5GHz (5000.0 - 6000.0 MHz); Frequency: 5600 MHz;
Medium parameters used: f = 5600 MHz; σ = 4.901 S/m; ε_r = 34.324; ρ = 1000 kg/m^3
Phantom section: Flat Section

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=10mm, dy=10mm
Maximum value of SAR (measured) = 22.0 W/kg

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

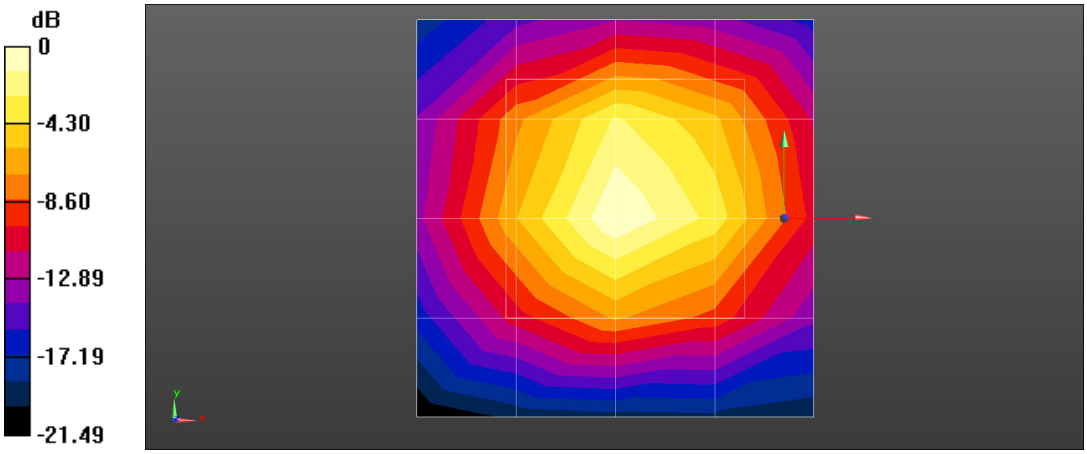
Communication System: UID 0, CW (0); Communication System Band: D5GHz (5000.0 - 6000.0 MHz); Frequency: 5800 MHz;
Medium parameters used: f = 5800 MHz; σ = 5.113 S/m; ε_r = 33.938; ρ = 1000 kg/m^3
Phantom section: Flat Section

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=10mm, dy=10mm
Maximum value of SAR (measured) = 19.8 W/kg

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

Date: 28.04.2018

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; σ = 2.02 S/m; εr = 52.291; ρ = 1000 kg/m3

Phantom section: Flat Section

DASY Configuration:

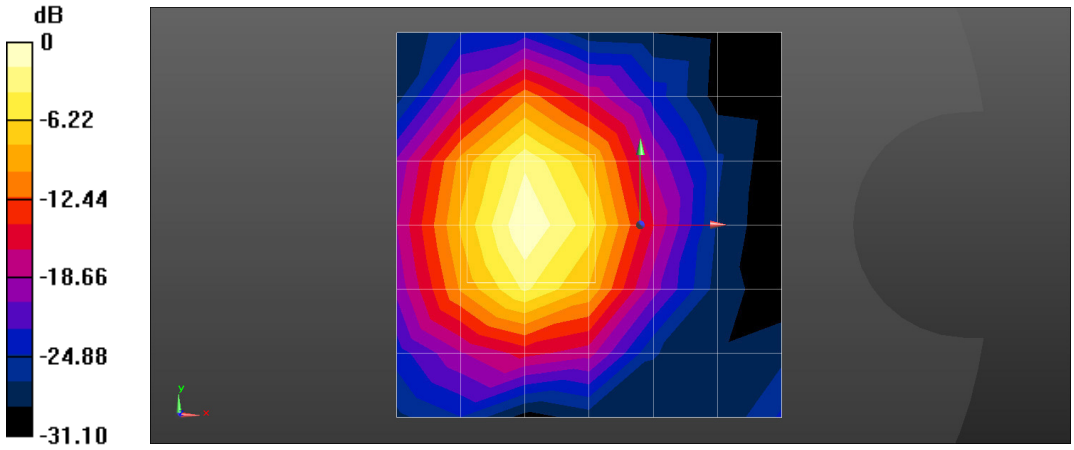
- Probe: EX3DV4 - SN3739; ConvF(4.9, 4.9, 4.9); Calibrated: 23.01.2018;
- Sensor-Surface: 1.4mm (Mechanical Surface Detection), z = 1.0, 23.0
- Electronics: DAE4 Sn1233; Calibrated: 16.02.2017
- Phantom: Twin-SAM right V5.0 (30deg); Type: QD 000 P40 CD; Serial: 1640
- DASY52 52.8.8(1258); SEMCAD X 14.6.10(7373)

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

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

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

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



0 dB = 14.8 W/kg = 11.70 dBW/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

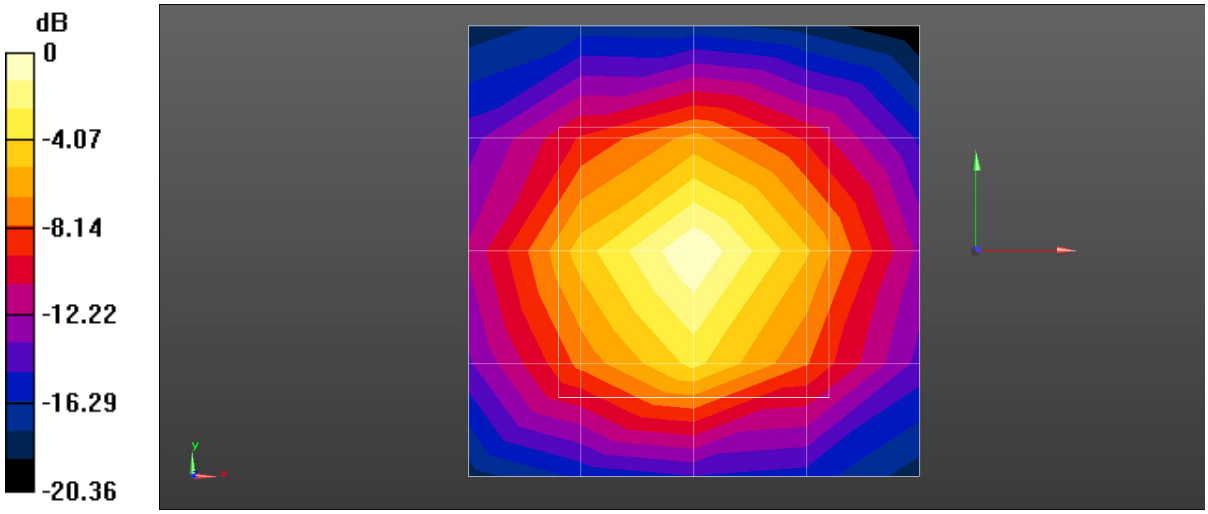
Communication System: UID 0, CW (0); Communication System Band: D5GHz (5000.0 - 6000.0 MHz); Frequency: 5200 MHz;
Medium parameters used: f = 5200 MHz; σ = 5.256 S/m; ε_r = 48.068; ρ = 1000 kg/m^3
Phantom section: Flat Section

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=10mm, dy=10mm
Maximum value of SAR (measured) = 17.6 W/kg

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

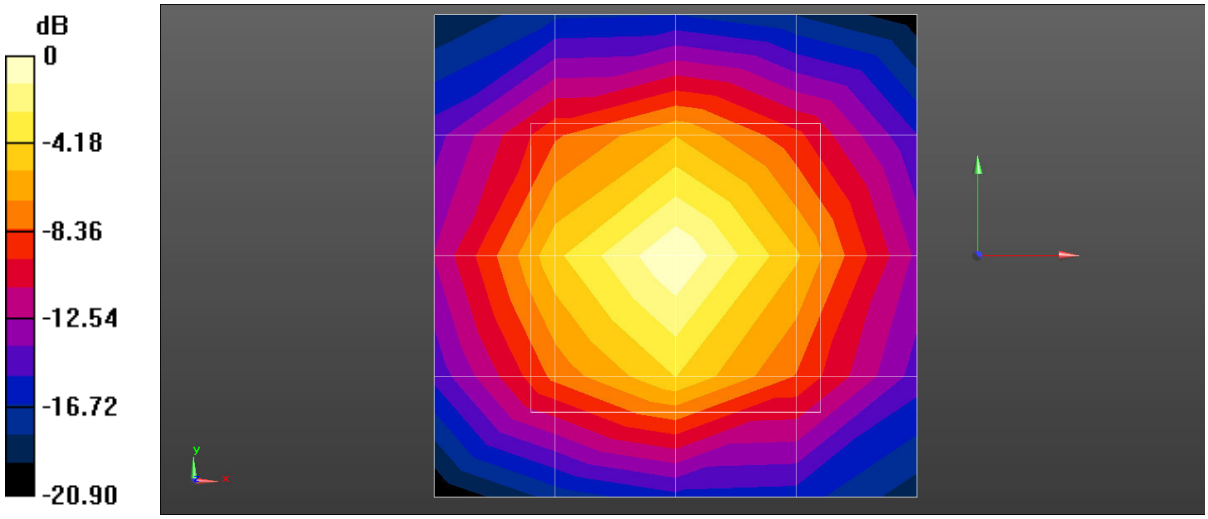
Communication System: UID 0, CW (0); Communication System Band: D5GHz (5000.0 - 6000.0 MHz); Frequency: 5600 MHz;
Medium parameters used: f = 5600 MHz; σ = 5.788 S/m; ε_r = 47.257; ρ = 1000 kg/m^3
Phantom section: Flat Section

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=10mm, dy=10mm
Maximum value of SAR (measured) = 20.5 W/kg

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

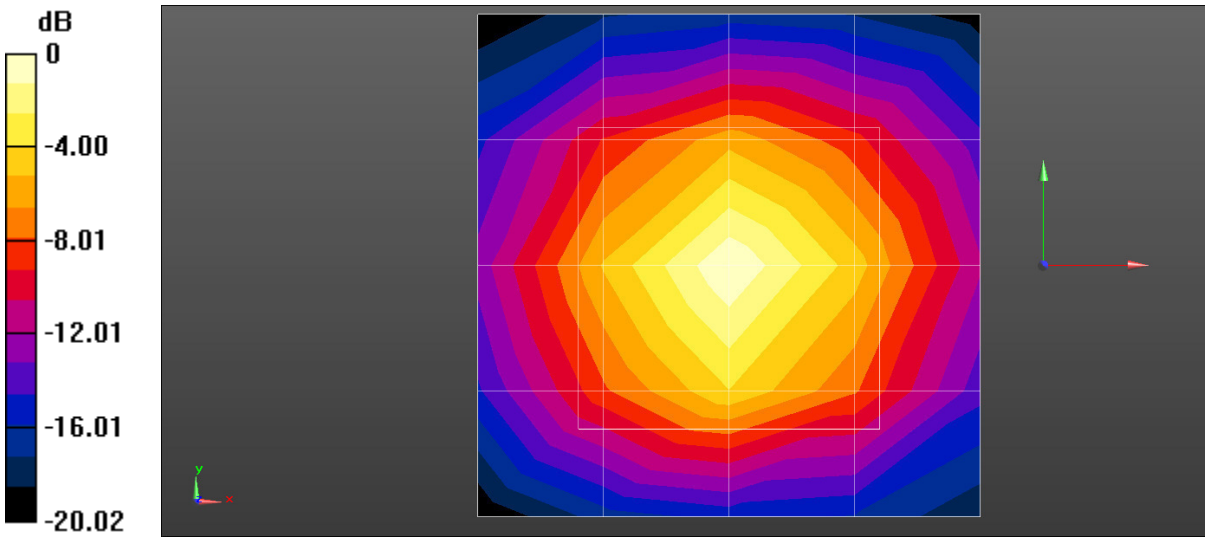
Communication System: UID 0, CW (0); Communication System Band: D5GHz (5000.0 - 6000.0 MHz); Frequency: 5800 MHz;
Medium parameters used: f = 5800 MHz; σ = 6.063 S/m; ε_r = 46.763; ρ = 1000 kg/m^3
Phantom section: Flat Section

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=10mm, dy=10mm
Maximum value of SAR (measured) = 20.8 W/kg

Configuration/Body/Zoom Scan (7x7x12)/Cube 0: Measurement grid: dx=4mm, dy=4mm, dz=2mm
Reference Value = 40.20 V/m; Power Drift = -0.18 dB



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