

APPENDIX A. SAR System Verification Data

The plots for system verification with largest deviation for each SAR system combination are shown as follows.

Date/Time: 21/05/2017

Test Laboratory: CERPASS TECH

Dipole Calibration for Body Tissue Pin=250mW, dist=10mm, f=2450MHz

DUT: Dipole 2450 MHz D2450V2; Type: D2450V2; Serial: D2450V2

Communication System: UID 0, CW (0); Communication System Band: D2450 (2450.0 MHz); Frequency: 2450 MHz;

Medium parameters used: $f = 2450$ MHz; $\sigma = 1.92$ S/m; $\epsilon_r = 52.48$; $\rho = 1000$ kg/m³

Phantom section: Flat Section

Measurement Standard: DASY5 (IEEE/IEC/ANSI C63.19-2011)

DASY Configuration:

- Probe: EX3DV4 - SN3578; ConvF(7.43, 7.43, 7.43); Calibrated: 2017/5/5;
- Sensor-Surface: 3mm (Mechanical Surface Detection), Sensor-Surface: 4mm (Mechanical Surface Detection), $z = 1.0, 31.0$
- Electronics: DAE4 Sn918; Calibrated: 2017/1/6
- Phantom: SAM (20deg probe tilt) with CRP v5.0; Type: QD000P40CD;
- DASY52 52.8.8(1222); SEMCAD X 14.6.10(7331)

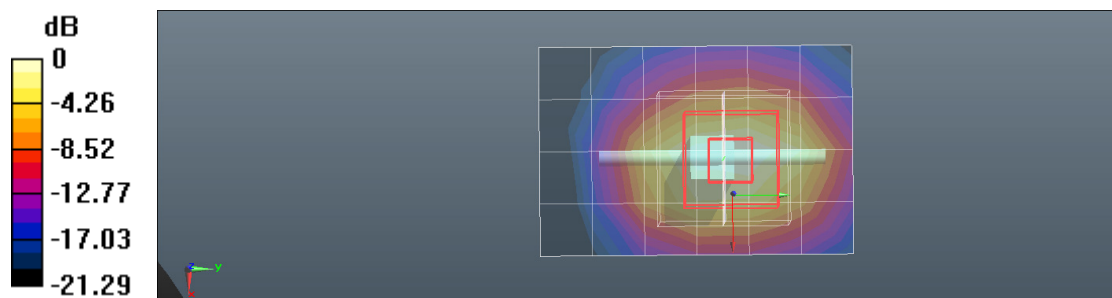
Configuration/SystemPerformanceCheck-D2450 Body/Area Scan (5x7x1):

Measurement grid: dx=12mm, dy=12mm, Maximum value of SAR (measured) = 14.9 W/kg

Configuration/SystemPerformanceCheck-D2450 Body/Zoom Scan (7x7x7)/Cube 0:

Measurement grid: dx=5mm, dy=5mm, dz=5mm, Reference Value = 84.23 V/m; Power Drift = -0.04 dB, Peak SAR (extrapolated) = 24.6 W/kg

SAR(1 g) = 12.6 W/kg; SAR(10 g) = 5.88 W/kg Maximum value of SAR (measured) = 14.5 W/kg



0 dB = 14.5 W/kg = 11.61 dBW/kg

Date/Time: 22/05/2017

Test Laboratory: CERPASS TECH

Dipole Calibration for Body Tissue Pin=100mW, dist=10mm, f=5300MHz

DUT: Dipole D5GHzV2; Type: D5GHzV2; Serial: D5GHzV2

Communication System: UID 0, CW (0); Communication System Band: D5GHz (5000.0 - 6000.0 MHz); Frequency: 5300 MHz;

Medium parameters used: $f = 5300$ MHz; $\sigma = 5.37$ S/m; $\epsilon_r = 49.06$; $\rho = 1000$ kg/m³

Phantom section: Flat Section

Measurement Standard: DASY5 (IEEE/IEC/ANSI C63.19-2007)

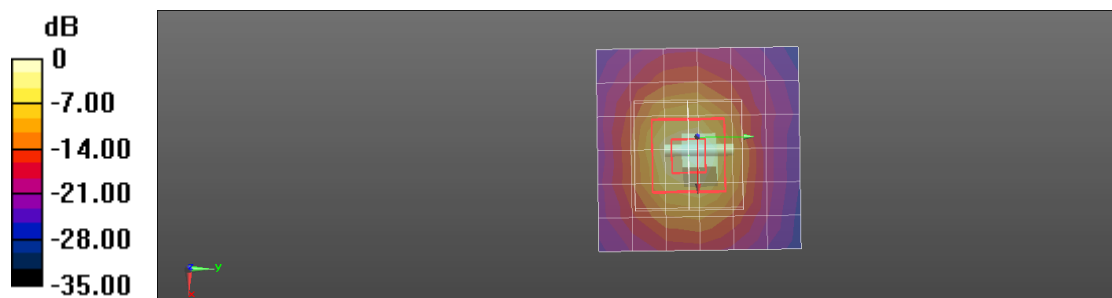
DASY Configuration:

- Probe: EX3DV4 - SN3578; ConvF(4.98, 4.98, 4.98); Calibrated: 2017/5/5;
- Sensor-Surface: 2mm (Mechanical Surface Detection), $z = 1.0, 31.0$
- Electronics: DAE4 Sn918; Calibrated: 2017/1/6
- Phantom: ELI v5.0 (30deg probe tilt); Type: QDOVA002AA;
- DASY52 52.8.8(1222); SEMCAD X 14.6.10(7331)

Configuration/Dipole Calibration for Body Tissue/Pin=100mW, dist=10mm, f=5300 MHz/Area Scan (7x7x1): Measurement grid: dx=10mm, dy=10mm, Maximum value of SAR (measured) = 14.7 W/kg

Configuration/Dipole Calibration for Body Tissue/Pin=100mW, dist=10mm, f=5300 MHz/Zoom Scan (9x9x6)/Cube 0: Measurement grid: dx=4mm, dy=4mm, dz=2mm, Reference Value = 39.83 V/m; Power Drift = -0.05 dB, Peak SAR (extrapolated) = 35.2 W/kg

SAR(1 g) = 8.06 W/kg; SAR(10 g) = 2.25 W/kg Maximum value of SAR (measured) = 17.1 W/kg



0 dB = 17.1 W/kg = 12.33 dBW/kg

Date/Time: 23/05/2017

Test Laboratory: CERPASS TECH

Dipole Calibration for Body Tissue Pin=100mW, dist=10mm, f=5600MHz

DUT: Dipole D5GHzV2; Type: D5GHzV2; Serial: D5GHzV2 - SN:1156

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

Medium parameters used: $f = 5600$ MHz; $\sigma = 5.76$ S/m; $\epsilon_r = 48.51$; $\rho = 1000$ kg/m³

Phantom section: Flat Section

Measurement Standard: DASY5 (IEEE/IEC/ANSI C63.19-2007)

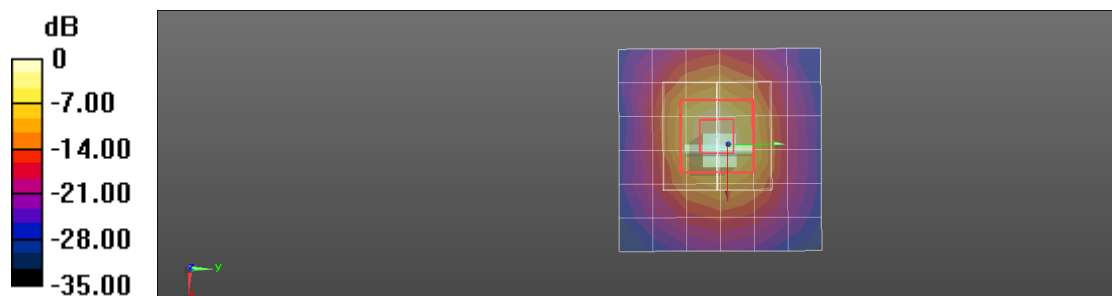
DASY Configuration:

- Probe: EX3DV4 - SN3578; ConvF(4.3, 4.3, 4.3); Calibrated: 2017/5/5;
- Sensor-Surface: 2mm (Mechanical Surface Detection), $z = 1.0, 31.0$
- Electronics: DAE4 Sn918; Calibrated: 2017/1/6
- Phantom: ELI v5.0 (20deg probe tilt); Type: QDOVA002AA;
- DASY52 52.8.8(1222); SEMCAD X 14.6.10(7331)

Configuration/Dipole Calibration for Body Tissue/Pin=100mW, dist=10mm, f=5600 MHz/Area Scan (7x7x1): Measurement grid: dx=10mm, dy=10mm, Maximum value of SAR (measured) = 14.3 W/kg

Configuration/Dipole Calibration for Body Tissue/Pin=100mW, dist=10mm, f=5600 MHz/Zoom Scan (9x9x6)/Cube 0: Measurement grid: dx=4mm, dy=4mm, dz=2mm, Reference Value = 37.65 V/m; Power Drift = 0.20 dB, Peak SAR (extrapolated) = 35.9 W/kg

SAR(1 g) = 8.24 W/kg; SAR(10 g) = 2.27 W/kg Maximum value of SAR (measured) = 17.6 W/kg



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

Date/Time: 24/05/2017

Test Laboratory: CERPASS TECH

Dipole Calibration for Body Tissue Pin=100mW, dist=10mm, f=5800MHz

DUT: Dipole D5GHzV2; Type: D5GHzV2; Serial: D5GHzV2 - SN:1156

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

Medium parameters used: $f = 5800$ MHz; $\sigma = 5.91$ S/m; $\epsilon_r = 48.22$; $\rho = 1000$ kg/m³

Phantom section: Flat Section

Measurement Standard: DASY5 (IEEE/IEC/ANSI C63.19-2007)

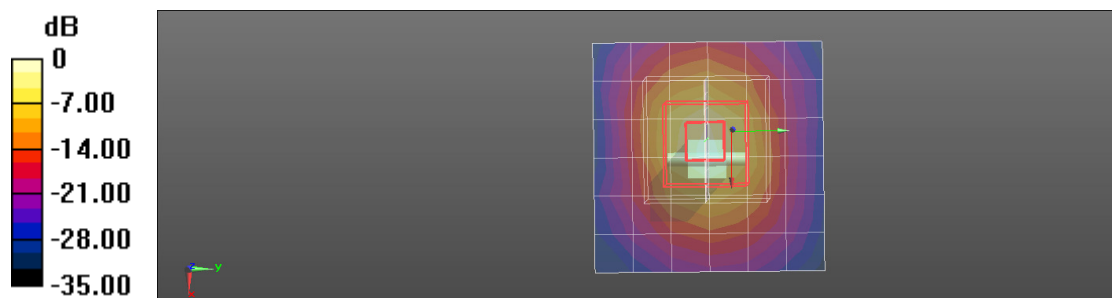
DASY Configuration:

- Probe: EX3DV4 - SN3578; ConvF(4.48, 4.48, 4.48); Calibrated: 2017/5/5;
- Sensor-Surface: 2mm (Mechanical Surface Detection), $z = 1.0, 31.0$
- Electronics: DAE4 Sn918; Calibrated: 2017/1/6
- Phantom: ELI v5.0 (20deg probe tilt); Type: QDOVA002AA;
- DASY52 52.8.8(1222); SEMCAD X 14.6.10(7331)

Configuration/Dipole Calibration for Body Tissue/Pin=100mW, dist=10mm, f=5800 MHz/Area Scan (7x7x1): Measurement grid: dx=10mm, dy=10mm, Maximum value of SAR (measured) = 13.6 W/kg

Configuration/Dipole Calibration for Body Tissue/Pin=100mW, dist=10mm, f=5800 MHz/Zoom Scan (9x9x6)/Cube 0: Measurement grid: dx=4mm, dy=4mm, dz=2mm, Reference Value = 35.22 V/m; Power Drift = 0.18 dB, Peak SAR (extrapolated) = 34.3 W/kg

SAR(1 g) = 7.58 W/kg; SAR(10 g) = 2.1 W/kg Maximum value of SAR (measured) = 16.5 W/kg



0 dB = 16.5 W/kg = 12.17 dBW/kg

APPENDIX B. SAR measurement Data

The SAR plots for highest measured SAR in each exposure configuration, wireless mode and frequency band combination, and measured SAR > 1.5 W/kg are shown as follows.

Plot1**Date/Time: 21/05/2017**

Test Laboratory: CERPASS TECH

802.11b 2437MHz Table edge-1-main

DUT: N24; Type: QCNFA344A;

Communication System: UID 0, 2.4GHz Wi-Fi (0); Frequency: 2437 MHz

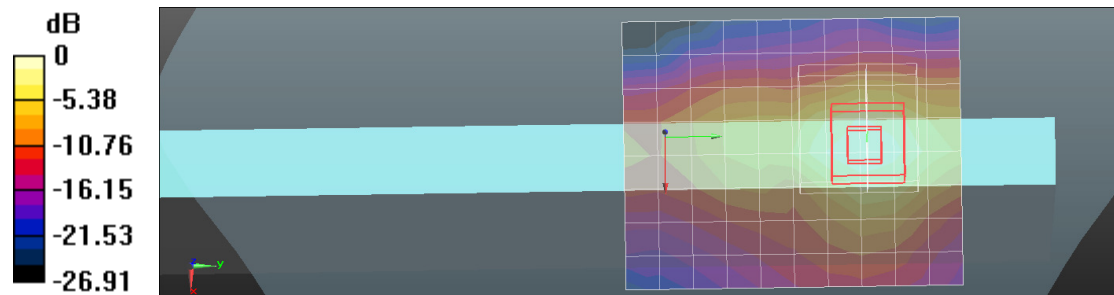
Medium parameters used : $f = 2437$ MHz; $\sigma = 1.91$ S/m; $\epsilon_r = 52.52$; $\rho = 1000$ kg/m³

Phantom section: Flat Section

Measurement Standard: DASYS (IEEE/IEC/ANSI C63.19-2011)

DASY Configuration:

- Probe: EX3DV4 - SN3578; ConvF(7.43, 7.43, 7.43); Calibrated: 2017/5/5;
- Sensor-Surface: 4mm (Mechanical Surface Detection), $z = 1.0, 31.0$
- Electronics: DAE4 Sn918; Calibrated: 2017/1/6
- Phantom: SAM (20deg probe tilt) with CRP v5.0; Type: QD000P40CD;
- DASY52 52.8.8(1222); SEMCAD X 14.6.10(7331)

Configuration/802.11b 2437MHzTable edge-1-main/Area Scan (9x11x1):Measurement grid: $dx=10$ mm, $dy=10$ mm, Maximum value of SAR (measured) = 0.835 W/kg**Configuration/802.11b 2437MHzTable edge-1-main/Zoom Scan (8x8x6)/Cube 0:**Measurement grid: $dx=5$ mm, $dy=5$ mm, $dz=2$ mm, Reference Value = 5.480 V/m; Power Drift = -0.08 dB, Peak SAR (extrapolated) = 1.08 W/kg**SAR(1 g) = 0.584 W/kg; SAR(10 g) = 0.287 W/kg** Maximum value of SAR (measured) = 0.838 W/kg

0 dB = 0.838 W/kg = -0.77 dBW/kg

Test Laboratory: CERPASS TECH

802.11a 5300MHz Table edge-1-main

DUT: N24; Type: QCNFA344A;

Communication System: UID 0, 5GHz Wi-Fi (0); Frequency: 5300 MHz

Medium parameters used: $f = 5300$ MHz; $\sigma = 5.37$ S/m; $\epsilon_r = 49.06$; $\rho = 1000$ kg/m³

Phantom section: Flat Section

Measurement Standard: DASYS (IEEE/IEC/ANSI C63.19-2011)

DASY Configuration:

- Probe: EX3DV4 - SN3578; ConvF(4.98, 4.98, 4.98); Calibrated: 2017/5/5;
- Sensor-Surface: 2mm (Mechanical Surface Detection), $z = 1.0, 31.0$
- Electronics: DAE4 Sn918; Calibrated: 2017/1/6
- Phantom: ELI v5.0 (20deg probe tilt); Type: QDOVA002AA;
- DASYS 52.8.8(1222); SEMCAD X 14.6.10(7331)

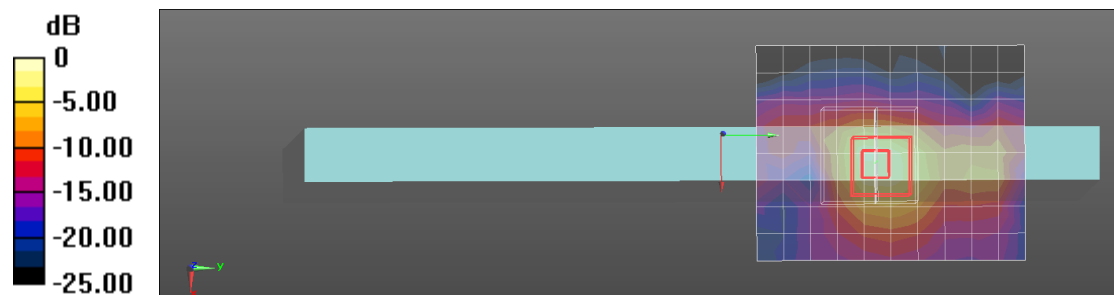
Configuration/802.11a 5300MHz Table edge-1-main/Area Scan (9x11x1):

Measurement grid: $dx=10$ mm, $dy=10$ mm, Maximum value of SAR (measured) = 1.24 W/kg

Configuration/802.11a 5300MHz Table edge-1-main/Zoom Scan (8x8x6)/Cube 0:

Measurement grid: $dx=5$ mm, $dy=5$ mm, $dz=2$ mm, Reference Value = 2.402 V/m; Power Drift = -0.16 dB, Peak SAR (extrapolated) = 3.35 W/kg

SAR(1 g) = 0.832 W/kg; SAR(10 g) = 0.257 W/kg Maximum value of SAR (measured) = 1.71 W/kg



0 dB = 1.71 W/kg = 2.33 dBW/kg

Plot3**Date/Time: 23/05/2017**

Test Laboratory: CERPASS TECH

802.11a 5680MHz Table edge-1-main

DUT: N24; Type: QCNFA344A;

Communication System: UID 0, 5GHz Wi-Fi (0); Frequency: 5680 MHz

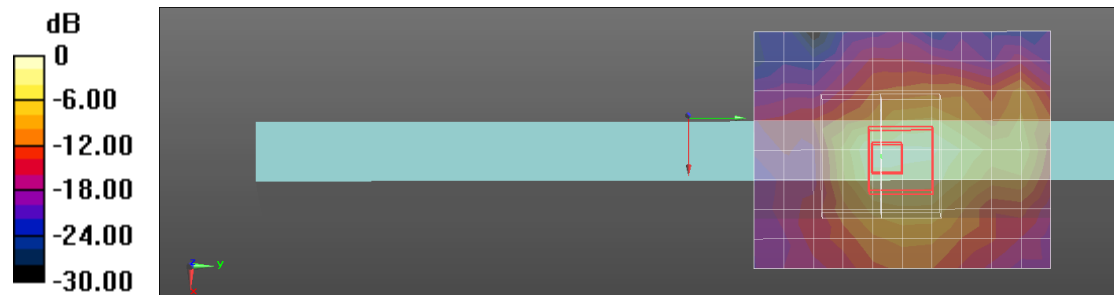
Medium parameters used : $f = 5680$ MHz; $\sigma = 5.81$ S/m; $\epsilon_r = 48.42$; $\rho = 1000$ kg/m³

Phantom section: Flat Section

Measurement Standard: DASY5 (IEEE/IEC/ANSI C63.19-2011)

DASY Configuration:

- Probe: EX3DV4 - SN3578; ConvF(4.3, 4.3, 4.3); Calibrated: 2017/5/5;
- Sensor-Surface: 2mm (Mechanical Surface Detection), $z = 1.0, 31.0$
- Electronics: DAE4 Sn918; Calibrated: 2017/1/6
- Phantom: ELI v5.0 (20deg probe tilt); Type: QDOVA002AA;
- DASY52 52.8.8(1222); SEMCAD X 14.6.10(7331)

Configuration/802.11a 5680MHz Table edge-1-main/Area Scan (9x11x1):Measurement grid: $dx=10$ mm, $dy=10$ mm, Maximum value of SAR (measured) = 1.11 W/kg**Configuration/802.11a 5680MHz Table edge-1-main/Zoom Scan (9x9x6)/Cube 0:**Measurement grid: $dx=5$ mm, $dy=5$ mm, $dz=2$ mm, Reference Value = 1.420 V/m; Power Drift = 0.11 dB, Peak SAR (extrapolated) = 2.72 W/kg**SAR(1 g) = 0.647 W/kg; SAR(10 g) = 0.215 W/kg** Maximum value of SAR (measured) = 1.40 W/kg

0 dB = 1.40 W/kg = 1.46 dBW/kg

Test Laboratory: CERPASS TECH

802.11a 5785MHz Table edge-1-main

DUT: N24; Type: QCNFA344A;

Communication System: UID 0, 5GHz Wi-Fi (0); Frequency: 5785 MHz

Medium parameters used : $f = 5785$ MHz; $\sigma = 5.88$ S/m; $\epsilon_r = 48.25$; $\rho = 1000$ kg/m³

Phantom section: Flat Section

Measurement Standard: DASY5 (IEEE/IEC/ANSI C63.19-2011)

DASY Configuration:

- Probe: EX3DV4 - SN3578; ConvF(4.48, 4.48, 4.48); Calibrated: 2017/5/5;
- Sensor-Surface: 2mm (Mechanical Surface Detection), $z = 1.0, 31.0$
- Electronics: DAE4 Sn918; Calibrated: 2017/1/6
- Phantom: ELI v5.0 (20deg probe tilt); Type: QDOVA002AA;
- DASY52 52.8.8(1222); SEMCAD X 14.6.10(7331)

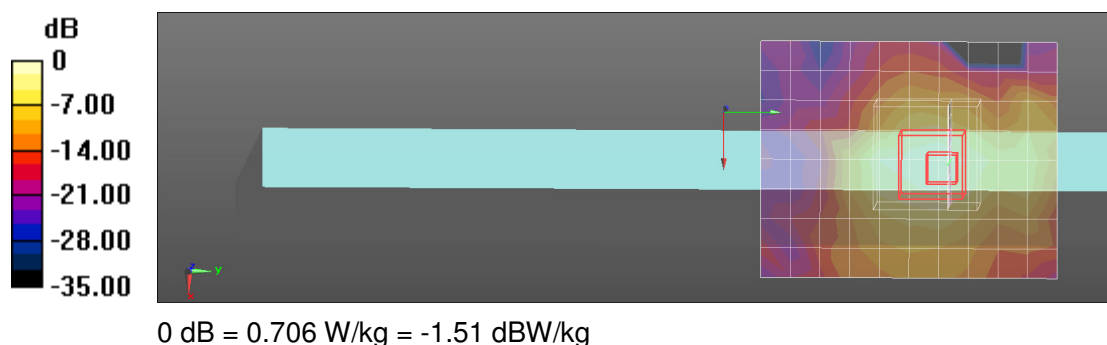
Configuration/802.11a 5785MHzTable edge-1-main/Area Scan (9x11x1):

Measurement grid: $dx=10$ mm, $dy=10$ mm, Maximum value of SAR (measured) = 0.672 W/kg

Configuration/802.11a 5785MHzTable edge-1-main/Zoom Scan (8x8x6)/Cube 0:

Measurement grid: $dx=5$ mm, $dy=5$ mm, $dz=2$ mm, Reference Value = 1.202 V/m; Power Drift = -0.18 dB, Peak SAR (extrapolated) = 1.24 W/kg

SAR(1 g) = 0.333 W/kg; SAR(10 g) = 0.120 W/kg Maximum value of SAR (measured) = 0.706 W/kg



APPENDIX C. Calibration Data for Probe, Dipole and DAE

Please refer to attached files.

APPENDIX D. Photographs of EUT and Setup

Please refer to attached files.