

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: 23/04/2019

Test Laboratory: CERPASS TECH

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

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

Communication System: CW; Frequency: 2450 MHz

Medium parameters used: $f = 2450$ MHz; $\sigma = 1.95$ S/m; $\epsilon_r = 52.70$; $\rho = 1000$ kg/m³

Phantom section: Flat Section

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

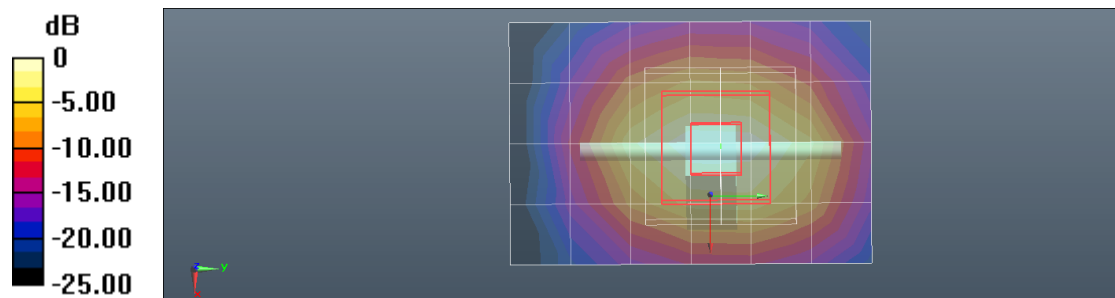
DASY Configuration:

- Probe: EX3DV4 - SN3927; ConvF(7.61, 7.61,7.61); Calibrated: 2018/6/22;
- Sensor-Surface: 1.4mm (Mechanical Surface Detection), $z = 1.0, 31.0$
- Electronics: DAE4 Sn1379; Calibrated: 2018/6/6
- Phantom: ELI v5.0; Type: QDOVA002AA
- DASY52 52.8.8(1222); SEMCAD X 14.6.10(7331)

Configuration/Area Scan (7x7x1): Measurement grid: $dx=12$ mm, $dy=12$ mm, Maximum value of SAR (measured) = 15 W/kg

Configuration/Zoom Scan (9x9x7)/Cube 0: Measurement grid: $dx=5$ mm, $dy=5$ mm, $dz=5$ mm, Reference Value = 105.21 V/m; Power Drift = 0.02 dB, Peak SAR (extrapolated) = 26.4 W/kg

SAR(1 g) = 12.8 W/kg; SAR(10 g) = 5.7W/kg Maximum value of SAR (measured) = 18.7 W/kg



0 dB = 18.7 W/kg = 12.72 dBW/kg

Date/Time: 23/04/2019

Test Laboratory: CERPASS TECH

Dipole Calibration for Body Tissue Pin=100mW, dist=10mm, f=5250 MHz

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

Communication System: CW; Frequency: 5250 MHz

Medium parameters used: $f = 5250$ MHz; $\sigma = 5.31$ S/m; $\epsilon_r = 48.95$; $\rho = 1000$ kg/m³

Phantom section: Flat Section

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

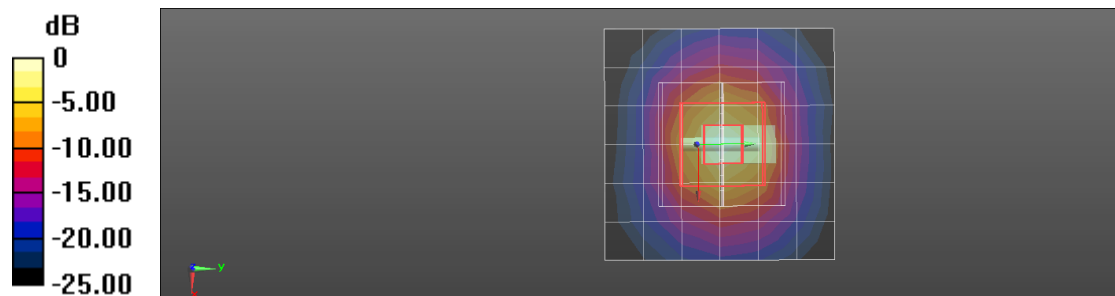
DASY Configuration:

- Probe: EX3DV4 - SN3927; ConvF(5.44, 5.44, 5.44); Calibrated: 2018/6/22;
- Sensor-Surface: 1.4mm (Mechanical Surface Detection), $z = 1.0, 25.0$
- Electronics: DAE4 Sn1379; Calibrated: 2018/6/6
- Phantom: ELI v5.0; Type: QDOVA002AA
- DASYS 52.8.8(1222); SEMCAD X 14.6.10(7331)

Configuration/Area Scan (7x7x1): Measurement grid: $dx=10$ mm, $dy=10$ mm, Maximum value of SAR (measured) = 16.3 W/kg

Configuration/Zoom Scan (9x9x7)/Cube 0: Measurement grid: $dx=4$ mm, $dy=4$ mm, $dz=1.4$ mm, Reference Value = 68.85 V/m; Power Drift = 0.01 dB, Peak SAR (extrapolated) = 31.3 W/kg

SAR(1 g) = 7.67 W/kg; SAR(10 g) = 2.17 W/kg Maximum value of SAR (measured) = 17.4 W/kg



0 dB = 17.4 W/kg = 12.41 dBW/kg

Date/Time: 24/04/2019

Test Laboratory: CERPASS TECH

Dipole Calibration for Body Tissue Pin=100mW, dist=10mm, f=5750 MHz

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

Communication System: CW; Frequency: 5750 MHz

Medium parameters used: $f = 5750 \text{ MHz}$; $\sigma = 5.99 \text{ S/m}$; $\epsilon_r = 48.27$; $\rho = 1000 \text{ kg/m}^3$

Phantom section: Flat Section; Meas. Ambient Temp (celsius) -21°C ; Input power-100mW

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

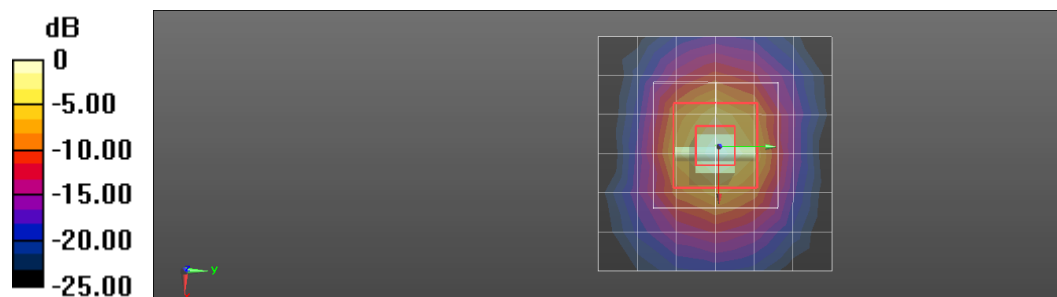
DASY Configuration:

- Probe: EX3DV4 - SN3927; ConvF(4.55, 4.55, 4.55); Calibrated: 2018/6/22;
- Sensor-Surface: 1.4mm (Mechanical Surface Detection), $z = 1.0, 25.0$
- Electronics: DAE4 Sn1379; Calibrated: 2018/6/6
- Phantom: ELI v5.0; Type: QDOVA002AA
- DASYS 52.8.8(1222); SEMCAD X 14.6.10(7331)

Configuration/Area Scan (7x7x1): Measurement grid: $dx=10\text{mm}$, $dy=10\text{mm}$, Maximum value of SAR (measured) = 18.9 W/kg

Configuration/Zoom Scan (9x9x7)/Cube 0: Measurement grid: $dx=4\text{mm}$, $dy=4\text{mm}$, $dz=1.4\text{mm}$, Reference Value = 71.84 V/m ; Power Drift = 0.02 dB , Peak SAR (extrapolated) = 34.5 W/kg

SAR(1 g) = 8.1 W/kg ; SAR(10 g) = 2.35 W/kg Maximum value of SAR (measured) = 19.5 W/kg



$0 \text{ dB} = 19.5 \text{ W/kg} = 12.90 \text{ dBW/kg}$

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.

Date/Time: 24/04/2019

Test Laboratory: CERPASS TECH

802.11b 2412MHz Edge_1

DUT: Mobile POS Terminal; Type: M3a-2

Communication System: UID 0, 2.4GHz Wi-Fi (0); Frequency: 2412MHz;

Medium parameters used: $f = 2412 \text{ MHz}$; $\sigma = 1.95 \text{ S/m}$; $\epsilon_r = 52.73$; $\rho = 1000 \text{ kg/m}^3$

Phantom section: Flat Section

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

DASY5 Configuration:

- Probe: EX3DV4 - SN3927; ConvF(7.53, 7.53, 7.53); Calibrated: 2018/6/22;
- Sensor-Surface: 2.5mm (Mechanical Surface Detection), $z = 1.0, 31.0$
- Electronics: DAE4 Sn1379; Calibrated: 2018/6/6
- Phantom: ELI v5.0; Type: QDOVA002AA
- DASY52 52.8.8(1222); SEMCAD X 14.6.10(7331)

Configuration/Area Scan (4x9x1): Measurement grid: $dx=12\text{mm}$, $dy=12\text{mm}$

Maximum value of SAR (measured) = 1.85 W/kg

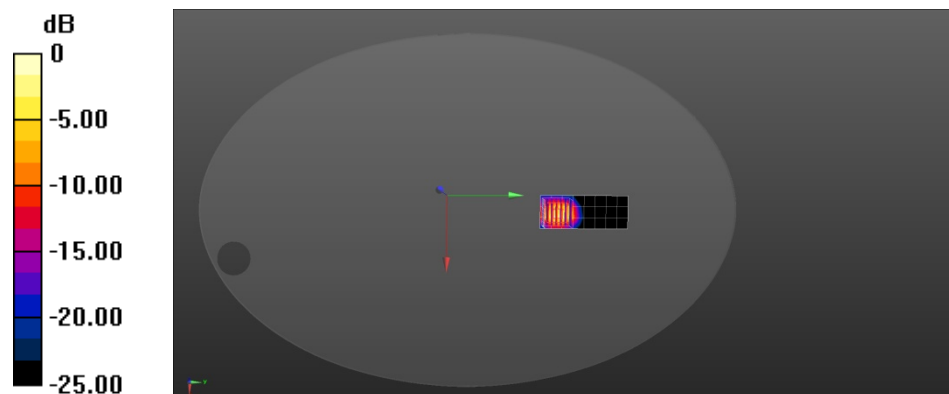
Configuration/Zoom Scan (7x7x7)/Cube 0: Measurement grid: $dx=5\text{mm}$, $dy=5\text{mm}$, $dz=5\text{mm}$

Reference Value = 2.361 V/m; Power Drift = 0.65 dB

Peak SAR (extrapolated) = 3.72 W/kg

SAR(1 g) = 1.51 W/kg; SAR(10 g) = 0.546 W/kg

Maximum value of SAR (measured) = 2.96 W/kg



0 dB = 2.96 W/kg = 4.71 dBW/kg

Date/Time: 28/04/2019

Test Laboratory: CERPASS TECH

802.11a 5240MHz Edge_1

DUT: Mobile POS Terminal; Type: M3a-2

Communication System: UID 0, 5GHz Wi-Fi (0); Frequency: 5240MHz;

Medium parameters used: $f = 5240 \text{ MHz}$; $\sigma = 5.26 \text{ S/m}$; $\epsilon_r = 48.60$; $\rho = 1000 \text{ kg/m}^3$

Phantom section: Flat Section

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

DASY5 Configuration:

- Probe: EX3DV4 - SN3927; ConvF(5.01, 5.01, 5.01); Calibrated: 2018/6/22;
- Sensor-Surface: 1.4mm (Mechanical Surface Detection), $z = 1.0, 25.0$
- Electronics: DAE4 Sn1379; Calibrated: 2018/6/6
- Phantom: ELI v5.0; Type: QDOVA002AA
- DASY52 52.8.8(1222); SEMCAD X 14.6.10(7331)

Configuration/Area Scan (5x11x1): Measurement grid: $dx=10\text{mm}$, $dy=10\text{mm}$

Maximum value of SAR (measured) = 2.38 W/kg

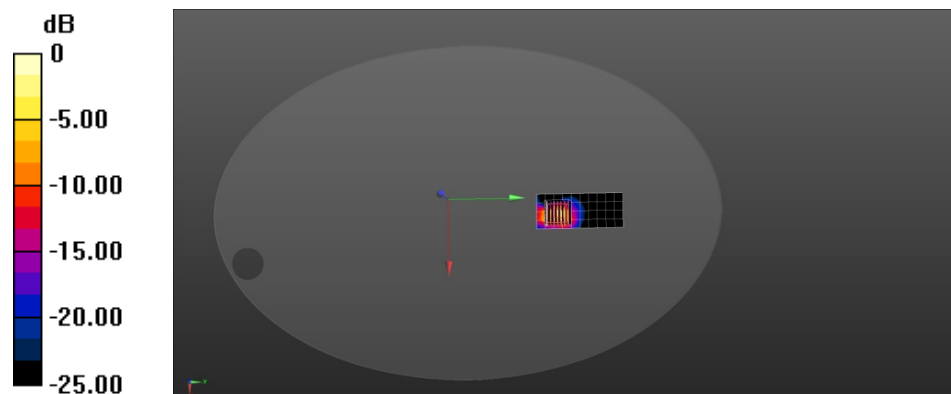
Configuration/Zoom Scan (8x8x7)/Cube 0: Measurement grid: $dx=4\text{mm}$, $dy=4\text{mm}$, $dz=1.4\text{mm}$

Reference Value = 0 V/m ; Power Drift = 0.00 dB

Peak SAR (extrapolated) = 6.48 W/kg

SAR(1 g) = 1.42 W/kg ; SAR(10 g) = 0.327 W/kg

Maximum value of SAR (measured) = 3.70 W/kg



$0 \text{ dB} = 3.70 \text{ W/kg} = 5.68 \text{ dBW/kg}$

Date/Time: 28/04/2019

Test Laboratory: CERPASS TECH

802.11a 5745MHz Edge_1

DUT: Mobile POS Terminal; Type: M3a-2

Communication System: UID 0, 5GHz Wi-Fi (0); Frequency: 5745MHz;

Medium parameters used: $f = 5745 \text{ MHz}$; $\sigma = 5.99 \text{ S/m}$; $\epsilon_r = 47.71$; $\rho = 1000 \text{ kg/m}^3$

Phantom section: Flat Section

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

DASY5 Configuration:

- Probe: EX3DV4 - SN3927; ConvF(4.46, 4.46, 4.46); Calibrated: 2018/6/22;
- Sensor-Surface: 1.4mm (Mechanical Surface Detection), $z = 1.0, 25.0$
- Electronics: DAE4 Sn1379; Calibrated: 2018/6/6
- Phantom: ELI v5.0; Type: QDOVA002AA
- DASYS 52.8.8(1222); SEMCAD X 14.6.10(7331)

Configuration/802.11a 5240MHz Horizontal-Up(Ant 1)/Area Scan (5x11x1):

Measurement grid: $dx=10\text{mm}$, $dy=10\text{mm}$

Maximum value of SAR (measured) $= 2.46 \text{ W/kg}$

Configuration/802.11a 5240MHz Horizontal-Up(Ant 1)/Zoom Scan (9x9x7)/Cube 0:

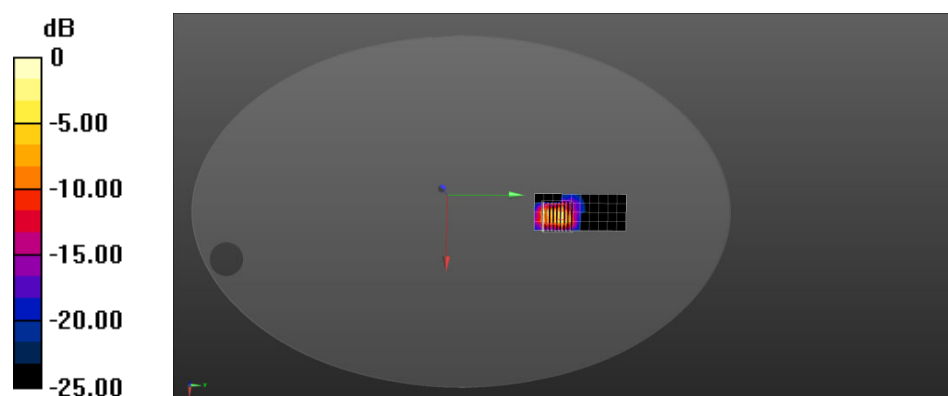
Measurement grid: $dx=4\text{mm}$, $dy=4\text{mm}$, $dz=1.4\text{mm}$

Reference Value = 0 V/m ; Power Drift = 0.00 dB

Peak SAR (extrapolated) $= 7.65 \text{ W/kg}$

SAR(1 g) = 1.42 W/kg ; SAR(10 g) = 0.344 W/kg

Maximum value of SAR (measured) $= 4.29 \text{ W/kg}$



0 dB = 4.29 W/kg $= 6.32 \text{ dBW/kg}$

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.