

Appendix A

Detailed System Check Results

Date: 2021/08/31

Test Laboratory: Compliance Certification Services Inc.

System Performance Check-Head 750MHz

DUT: Dipole 750 MHz; Type: D750V3; Serial: 1188

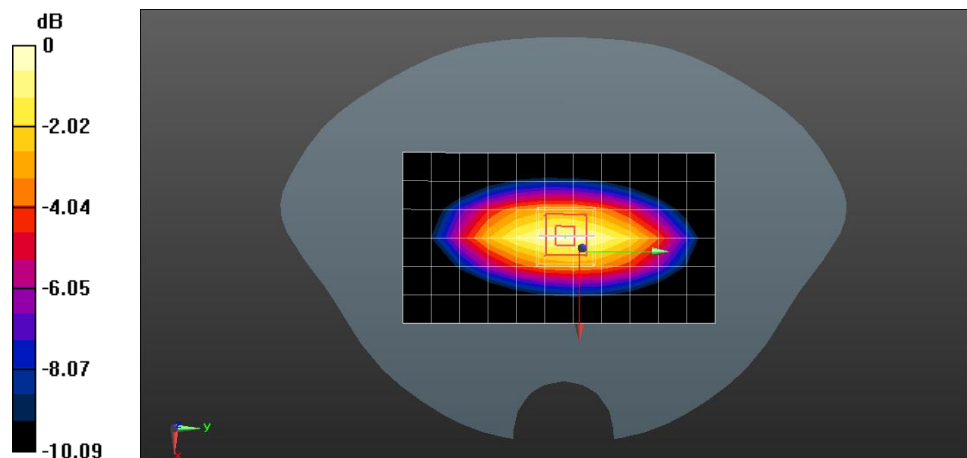
Communication System: UID 0, CW (0); Frequency: 750 MHz; Duty Cycle: 1:1
 Medium parameters used: $f = 750 \text{ MHz}$; $\sigma = 0.879 \text{ S/m}$; $\epsilon_r = 42.786$; $\rho = 1000 \text{ kg/m}^3$
 Phantom section: Flat Section
 Measurement Standard: DASYS (IEEE/IEC/ANSI C63.19-2007)

DASY5 Configuration:

- Probe: EX3DV4 - SN3798; ConvF(9.78, 9.78, 9.78); Calibrated: 2021/05/31;
- Sensor-Surface: 1.4mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn1245; Calibrated: 2021/05/19
- Phantom: Twin SAM Phantom; Type: QD 000 P40 CD; Serial: 1609
- Measurement SW: DASY52, Version 52.8 (8); SEMCAD X Version 14.6.10 (7331)

System Performance Check at Frequencies Low 1 GHz/d=15mm, Pin=250 mW, dist=3.0mm (EX-Probe)/Area Scan (7x12x1): Measurement grid: dx=15mm, dy=15mm
 Maximum value of SAR (measured) = 2.61 W/kg

System Performance Check at Frequencies Low 1 GHz/d=15mm, Pin=250 mW, dist=3.0mm (EX-Probe)/Zoom Scan (7x7x7) (7x7x7)/Cube 0: Measurement grid: dx=5mm, dy=5mm, dz=5mm
 Reference Value = 58.73 V/m; Power Drift = -0.16 dB
 Peak SAR (extrapolated) = 3.26 W/kg
SAR(1 g) = 2.09 W/kg; SAR(10 g) = 1.37 W/kg
 Maximum value of SAR (measured) = 2.79 W/kg



0 dB = 2.79 W/kg = 4.46 dBW/kg

Date: 2021/08/27

Test Laboratory: Compliance Certification Services Inc.

System Performance Check-Head 835MHz

DUT: Dipole 835 MHz; Type: D835V2; Serial: 4d114

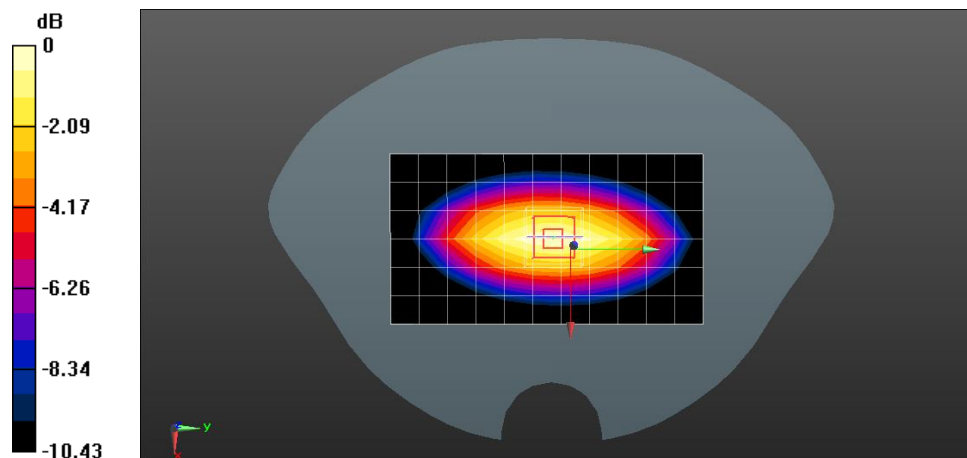
Communication System: UID 0, CW; Frequency: 835 MHz; Duty Cycle: 1:1
 Medium parameters used: $f = 835 \text{ MHz}$; $\sigma = 0.909 \text{ S/m}$; $\epsilon_r = 40.668$; $\rho = 1000 \text{ kg/m}^3$
 Phantom section: Flat Section
 Measurement Standard: DASY5 (IEEE/IEC/ANSI C63.19-2007)

DASY5 Configuration:

- Probe: EX3DV4 - SN3798; ConvF(9.52, 9.52, 9.52); Calibrated: 2021/05/31;
- Sensor-Surface: 1.4mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn1245; Calibrated: 2021/05/19
- Phantom: Twin SAM Phantom; Type: QD 000 P40 CD; Serial: 1609
- Measurement SW: DASY52, Version 52.8 (8); SEMCAD X Version 14.6.10 (7331)

System Performance Check at Frequencies Low 1 GHz/d=15mm, Pin=250 mW, dist=3.0mm (EX-Probe)/Area Scan (7x12x1): Measurement grid: dx=15mm, dy=15mm
 Maximum value of SAR (measured) = 2.36 W/kg

System Performance Check at Frequencies Low 1 GHz/d=15mm, Pin=250 mW, dist=3.0mm (EX-Probe)/Zoom Scan (7x7x7) (7x7x7)/Cube 0: Measurement grid: dx=5mm, dy=5mm, dz=5mm
 Reference Value = 52.33 V/m; Power Drift = -0.07 dB
 Peak SAR (extrapolated) = 2.82 W/kg
SAR(1 g) = 2.38 W/kg; SAR(10 g) = 1.57 W/kg
 Maximum value of SAR (measured) = 2.38 W/kg



0 dB = 2.38 W/kg = 3.77 dBW/kg

Date: 2021/08/28

Test Laboratory: Compliance Certification Services Inc.

System Performance Check-Head 1800MHz

DUT: Dipole 1800 MHz ; Type: D1800V2; Serial: 2d170

Communication System: UID 10000, CW; Frequency: 1800 MHz; Duty Cycle: 1:1
 Medium parameters used: $f = 1800 \text{ MHz}$; $\sigma = 1.384 \text{ S/m}$; $\epsilon_r = 40.258$; $\rho = 1000 \text{ kg/m}^3$
 Phantom section: Flat Section
 Measurement Standard: DASY5 (IEEE/IEC/ANSI C63.19-2007)

DASY5 Configuration:

- Probe: EX3DV4 - SN3798; ConvF(8.22, 8.22, 8.22); Calibrated: 2021/05/31;
- Sensor-Surface: 1.4mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn1245; Calibrated: 2021/05/19
- Phantom: Twin SAM Phantom; Type: QD 000 P40 CD; Serial: 1609
- Measurement SW: DASY52, Version 52.8 (8); SEMCAD X Version 14.6.10 (7331)

System Performance Check at Frequencies above 1 GHz/d=10mm, Pin=250 mW, dist=2.0mm (EX-Probe) (23.6 dBm)/Area Scan (7x7x1): Measurement grid: dx=15mm, dy=15mm
 Maximum value of SAR (measured) = 12.9 W/kg

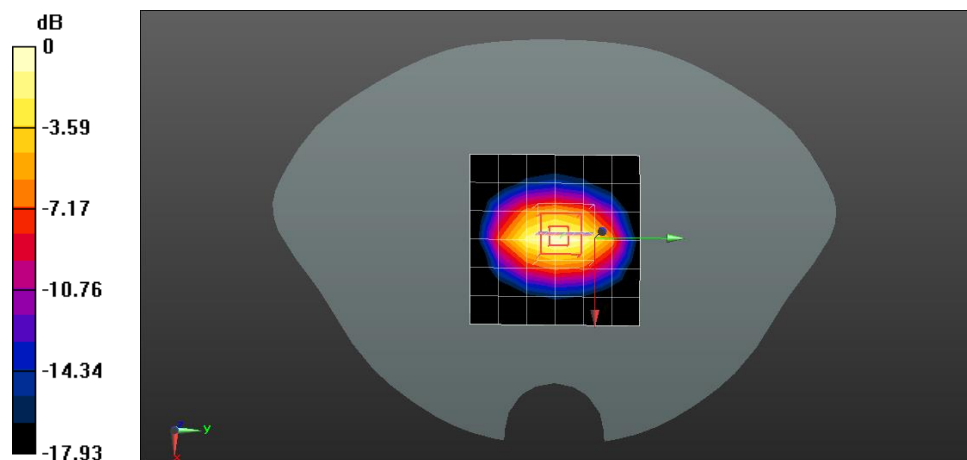
System Performance Check at Frequencies above 1 GHz/d=10mm, Pin=250 mW, dist=2.0mm (EX-Probe) (23.6 dBm)/Zoom Scan (7x7x7) (7x7x7)/Cube 0: Measurement grid: dx=5mm, dy=5mm, dz=5mm

Reference Value = 98.05 V/m; Power Drift = -0.03 dB

Peak SAR (extrapolated) = 16.9 W/kg

SAR(1 g) = 9.5 W/kg; SAR(10 g) = 4.91 W/kg

Maximum value of SAR (measured) = 13.0 W/kg



0 dB = 13.0 W/kg = 11.14 dBW/kg

Date: 2021/08/30

Test Laboratory: Compliance Certification Services Inc.

System Performance Check-Head 1900MHz

DUT: Dipole 1900 MHz ; Type: D1900V2; Serial: 5d136

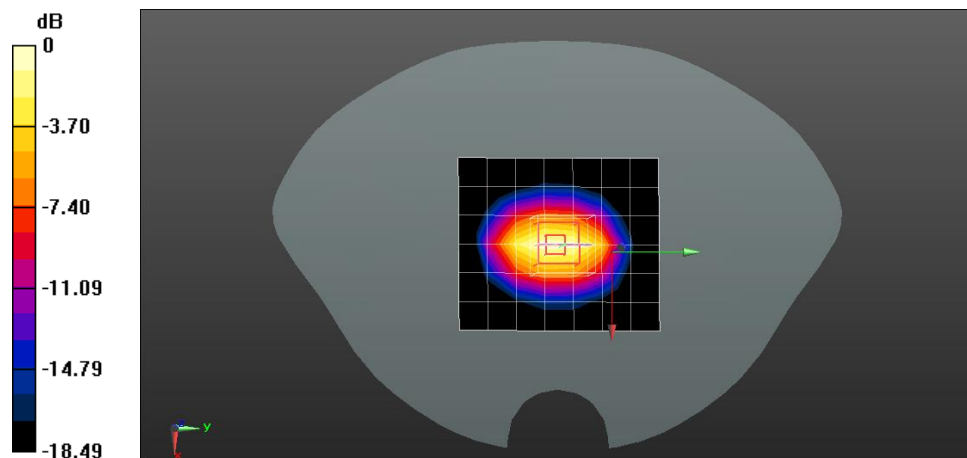
Communication System: UID 0, CW; Frequency: 1900 MHz; Duty Cycle: 1:1
 Medium parameters used: $f = 1900 \text{ MHz}$; $\sigma = 1.372 \text{ S/m}$; $\epsilon_r = 40.64$; $\rho = 1000 \text{ kg/m}^3$
 Phantom section: Flat Section
 Measurement Standard: DASY5 (IEEE/IEC/ANSI C63.19-2007)

DASY5 Configuration:

- Probe: EX3DV4 - SN3798; ConvF(7.89, 7.89, 7.89); Calibrated: 2021/05/31;
- Sensor-Surface: 1.4mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn1245; Calibrated: 2021/05/19
- Phantom: Twin SAM Phantom; Type: QD 000 P40 CD; Serial: 1609
- Measurement SW: DASY52, Version 52.8 (8); SEMCAD X Version 14.6.10 (7331)

System Performance Check at Frequencies above 1 GHz/Pin=250 mW, dist=10mm (EX-Probe)/Area Scan (7x8x1): Measurement grid: $dx=15\text{mm}$, $dy=15\text{mm}$
 Maximum value of SAR (measured) = 13.9 W/kg

System Performance Check at Frequencies above 1 GHz/Pin=250 mW, dist=10mm (EX-Probe)/Zoom Scan (7x7x7) (7x7x7)/Cube 0: Measurement grid: $dx=5\text{mm}$, $dy=5\text{mm}$, $dz=5\text{mm}$
 Reference Value = 103.7 V/m; Power Drift = -0.01 dB
 Peak SAR (extrapolated) = 18.6 W/kg
SAR(1 g) = 9.9 W/kg; SAR(10 g) = 5.11 W/kg
 Maximum value of SAR (measured) = 14.2 W/kg



0 dB = 14.2 W/kg = 11.52 dBW/kg

Date: 2021/08/26

Test Laboratory: Compliance Certification Services Inc.

System Performance Check-Head 2450MHz

DUT: Dipole 2450 MHz ; Type: D2450V2; Serial: 817

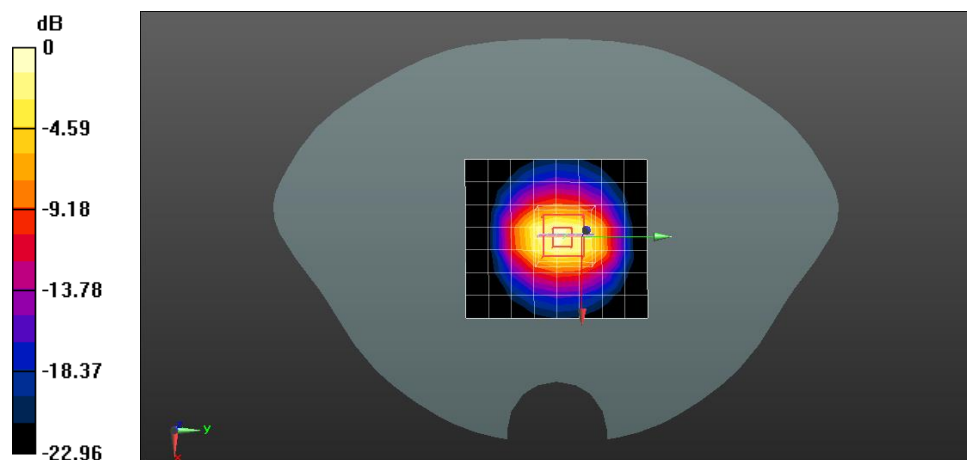
Communication System: UID 0, CW; Frequency: 2450 MHz; Duty Cycle: 1:1
 Medium parameters used: $f = 2450 \text{ MHz}$; $\sigma = 1.782 \text{ S/m}$; $\epsilon_r = 39.422$; $\rho = 1000 \text{ kg/m}^3$
 Phantom section: Flat Section
 Measurement Standard: DASY5 (IEEE/IEC/ANSI C63.19-2007)

DASY5 Configuration:

- Probe: EX3DV4 - SN3798; ConvF(7.33, 7.33, 7.33); Calibrated: 2021/05/31;
- Sensor-Surface: 1.4mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn1245; Calibrated: 2021/05/19
- Phantom: Twin SAM Phantom; Type: QD 000 P40 CD; Serial: 1609
- Measurement SW: DASY52, Version 52.8 (8); SEMCAD X Version 14.6.10 (7331)

System Performance Check at Frequencies above 1 GHz/d=10mm, Pin=250 mW, dist=2.0mm (EX-Probe)/Area Scan (8x9x1): Measurement grid: dx=12mm, dy=12mm
 Maximum value of SAR (measured) = 15.0 W/kg

System Performance Check at Frequencies above 1 GHz/d=10mm, Pin=250 mW, dist=2.0mm (EX-Probe)/Zoom Scan (7x7x7) (7x7x7)/Cube 0: Measurement grid: dx=5mm, dy=5mm, dz=5mm
 Reference Value = 106.8 V/m; Power Drift = -0.04 dB
 Peak SAR (extrapolated) = 26.3 W/kg
SAR(1 g) = 13.2 W/kg; SAR(10 g) = 5.92 W/kg
 Maximum value of SAR (measured) = 19.2 W/kg



0 dB = 19.2 W/kg = 12.83 dBW/kg

Date: 2021/08/26

Test Laboratory: Compliance Certification Services Inc.

System Performance Check-Head 2600MHz

DUT: Dipole 2600 MHz; Type: D2600V2; Serial: 1158

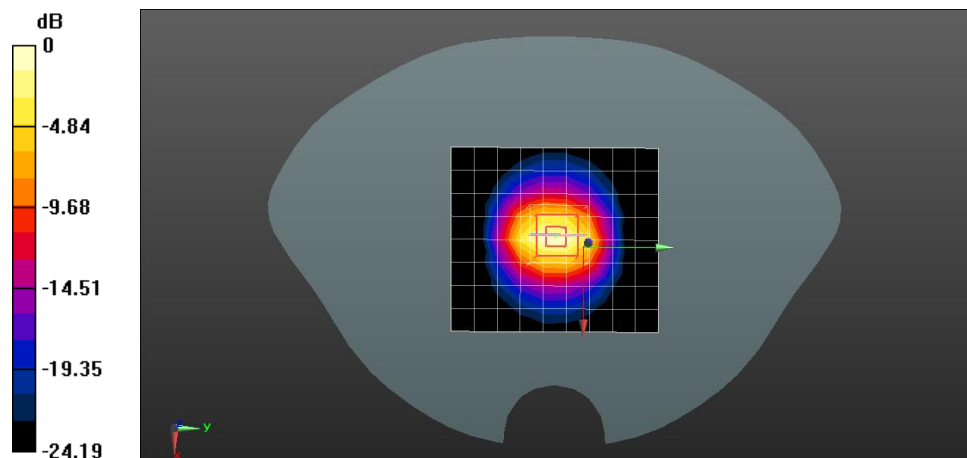
Communication System: UID 0, CW (0); Frequency: 2600 MHz; Duty Cycle: 1:1
 Medium parameters used: $f = 2600 \text{ MHz}$; $\sigma = 1.953 \text{ S/m}$; $\epsilon_r = 38.932$; $\rho = 1000 \text{ kg/m}^3$
 Phantom section: Flat Section
 Measurement Standard: DASYS (IEEE/IEC/ANSI C63.19-2007)

DASY5 Configuration:

- Probe: EX3DV4 - SN3798; ConvF(7.13, 7.13, 7.13); Calibrated: 2021/05/31;
- Sensor-Surface: 1.4mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn1245; Calibrated: 2021/05/19
- Phantom: Twin SAM Phantom; Type: QD 000 P40 CD; Serial: 1609
- Measurement SW: DASY52, Version 52.8 (8); SEMCAD X Version 14.6.10 (7331)

System Performance Check at Frequencies above 1 GHz/Pin=250 mW, dist=10mm (EX-Probe)/Area Scan (9x10x1): Measurement grid: dx=12mm, dy=12mm
 Maximum value of SAR (measured) = 18.8 W/kg

System Performance Check at Frequencies above 1 GHz/Pin=250 mW, dist=10mm (EX-Probe)/Zoom Scan (7x7x7) (7x7x7)/Cube 0: Measurement grid: dx=5mm, dy=5mm, dz=5mm
 Reference Value = 105.1 V/m; Power Drift = 0.11 dB
 Peak SAR (extrapolated) = 28.9 W/kg
SAR(1 g) = 13.9 W/kg; SAR(10 g) = 6.07 W/kg
 Maximum value of SAR (measured) = 20.9 W/kg



0 dB = 20.9 W/kg = 13.20 dBW/kg

Date: 2021/09/01

Test Laboratory: Compliance Certification Services Inc.

System Performance Check-Head 5250MHz

DUT: Dipole D5GHzV2; Type: D5GHzV2; Serial: 1095

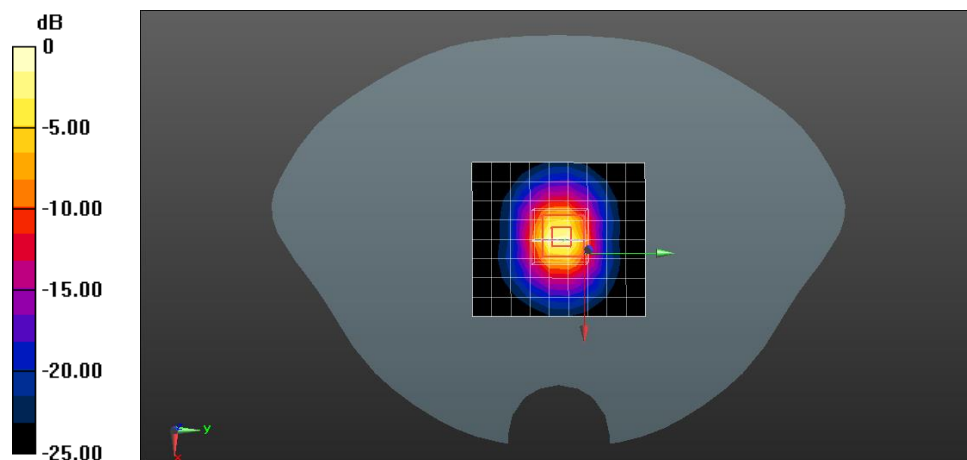
Communication System: UID 0, CW (0); Frequency: 5250 MHz; Duty Cycle: 1:1
 Medium parameters used: $f = 5250$ MHz; $\sigma = 4.721$ S/m; $\epsilon_r = 36.578$; $\rho = 1000$ kg/m³
 Phantom section: Flat Section
 Measurement Standard: DASY5 (IEEE/IEC/ANSI C63.19-2007)

DASY5 Configuration:

- Probe: EX3DV4 - SN3798; ConvF(4.85, 4.85, 4.85); Calibrated: 2021/05/31;
- Sensor-Surface: 1.4mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn1245; Calibrated: 2021/05/19
- Phantom: Twin SAM Phantom; Type: QD 000 P40 CD; Serial: 1609
- Measurement SW: DASY52, Version 52.8 (8); SEMCAD X Version 14.6.10 (7331)

System Performance Check with D5GHzV2 Dipole (graded grid)/d=10mm, Pin=100mW, f=5250 MHz/Area Scan (9x10x1): Measurement grid: dx=10mm, dy=10mm
 Maximum value of SAR (measured) = 15.7 W/kg

System Performance Check with D5GHzV2 Dipole (graded grid)/d=10mm, Pin=100mW, f=5250 MHz/Zoom Scan (4x4x1.4mm, graded), dist=1.4mm (8x8x7)/Cube 0: Measurement grid: dx=4mm, dy=4mm, dz=1.4mm
 Reference Value = 71.51 V/m; Power Drift = 0.02 dB
 Peak SAR (extrapolated) = 32.0 W/kg
SAR(1 g) = 8.02 W/kg; SAR(10 g) = 2.3 W/kg
 Maximum value of SAR (measured) = 18.9 W/kg



0 dB = 18.9 W/kg = 12.76 dBW/kg

Date: 2021/09/01

Test Laboratory: Compliance Certification Services Inc.

System Performance Check-Head 5600MHz

DUT: Dipole D5GHzV2; Type: D5GHzV2; Serial: 1095

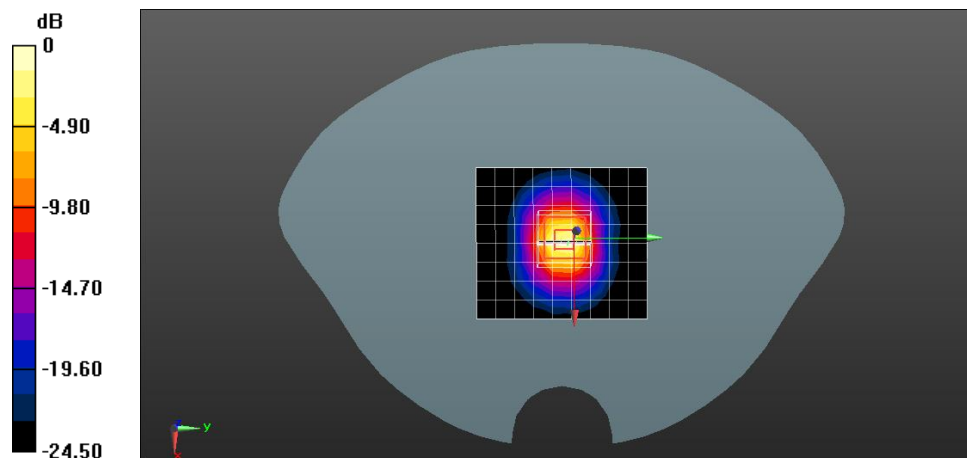
Communication System: UID 0, CW (0); Frequency: 5600 MHz;Duty Cycle: 1:1
 Medium parameters used: $f = 5600 \text{ MHz}$; $\sigma = 5.107 \text{ S/m}$; $\epsilon_r = 35.626$; $\rho = 1000 \text{ kg/m}^3$
 Phantom section: Flat Section
 Measurement Standard: DASYS (IEEE/IEC/ANSI C63.19-2007)

DASY5 Configuration:

- Probe: EX3DV4 - SN3798; ConvF(4.5, 4.5, 4.5); Calibrated: 2021/05/31;
- Sensor-Surface: 1.4mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn1245; Calibrated: 2021/05/19
- Phantom: Twin SAM Phantom; Type: QD 000 P40 CD; Serial: 1609
- Measurement SW: DASY52, Version 52.8 (8); SEMCAD X Version 14.6.10 (7331)

System Performance Check with D5GHzV2 Dipole (graded grid)/d=10mm, Pin=100mW, f=5600 MHz/Area Scan (9x10x1): Measurement grid: dx=10mm, dy=10mm
 Maximum value of SAR (measured) = 18.0 W/kg

System Performance Check with D5GHzV2 Dipole (graded grid)/d=10mm, Pin=100mW, f=5600 MHz/Zoom Scan (4x4x1.4mm, graded), dist=1.4mm (8x8x7)/Cube 0: Measurement grid: dx=4mm, dy=4mm, dz=1.4mm
 Reference Value = 72.55 V/m; Power Drift = 0.11 dB
 Peak SAR (extrapolated) = 36.0 W/kg
SAR(1 g) = 8.23 W/kg; SAR(10 g) = 2.37 W/kg



0 dB = 20.4 W/kg = 13.10 dBW/kg

Date: 2021/09/01

Test Laboratory: Compliance Certification Services Inc.

System Performance Check-Head 5250MHz

DUT: Dipole D5GHzV2; Type: D5GHzV2; Serial: 1095

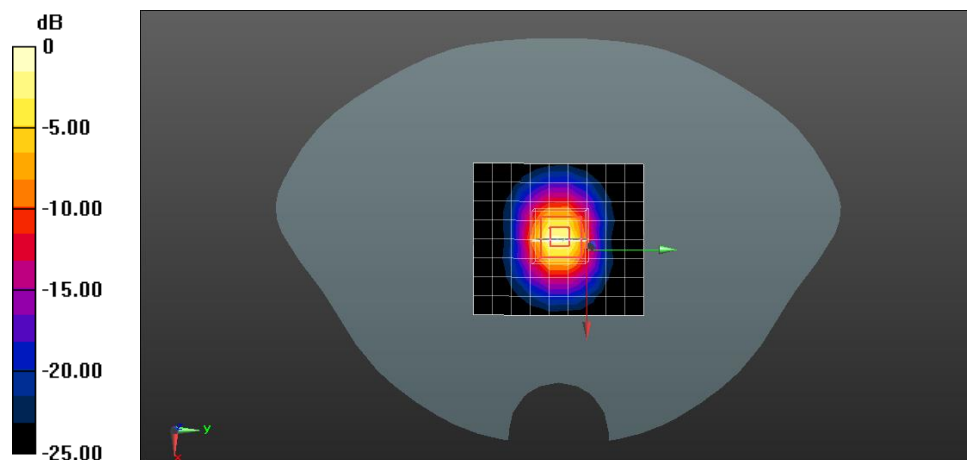
Communication System: UID 0, CW (0); Frequency: 5750 MHz; Duty Cycle: 1:1
 Medium parameters used: $f = 5750 \text{ MHz}$; $\sigma = 5.279 \text{ S/m}$; $\epsilon_r = 35.262$; $\rho = 1000 \text{ kg/m}^3$
 Phantom section: Flat Section
 Measurement Standard: DASYS (IEEE/IEC/ANSI C63.19-2007)

DASY5 Configuration:

- Probe: EX3DV4 - SN3798; ConvF(4.6, 4.6, 4.6); Calibrated: 2021/05/31;
- Sensor-Surface: 1.4mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn1245; Calibrated: 2021/05/19
- Phantom: Twin SAM Phantom; Type: QD 000 P40 CD; Serial: 1609
- Measurement SW: DASY52, Version 52.8 (8); SEMCAD X Version 14.6.10 (7331)

System Performance Check with D5GHzV2 Dipole (graded grid)/d=10mm, Pin=100mW, f=5750 MHz/Area Scan (9x10x1): Measurement grid: dx=10mm, dy=10mm
 Maximum value of SAR (measured) = 16.0 W/kg

System Performance Check with D5GHzV2 Dipole (graded grid)/d=10mm, Pin=100mW, f=5750 MHz/Zoom Scan (4x4x1.4mm, graded), dist=1.4mm (8x8x7)/Cube 0: Measurement grid: dx=4mm, dy=4mm, dz=1.4mm
 Reference Value = 70.42 V/m; Power Drift = 0.14 dB
 Peak SAR (extrapolated) = 35.0 W/kg
SAR(1 g) = 8.05 W/kg; SAR(10 g) = 2.33 W/kg
 Maximum value of SAR (measured) = 19.5 W/kg



0 dB = 19.5 W/kg = 12.90 dBW/kg