



# **Appendix A**

## **Detailed System Validation Results**

System Performance Check 1900 MHz Head
System Performance Check 1900 MHz Body
System Performance Check 2600 MHz Head
System Performance Check 2600 MHz Body

Test Laboratory: SGS-SAR Lab

## System Performance Check 1900 MHz Head

**DUT: D1900V2; Type: D1900V2; Serial: 5d028**

Communication System: UID 0, CW (0); Frequency: 1900 MHz; Duty Cycle: 1:1

Medium: HSL1900; Medium parameters used:  $f = 1900$  MHz;  $\sigma = 1.36$  S/m;  $\epsilon_r = 39.959$ ;  $\rho = 1000$  kg/m<sup>3</sup>

Phantom section: Flat Section

DASY 5 Configuration:

- Probe: EX3DV4 - SN3962; ConvF(8.26, 8.26, 8.26); Calibrated: 2018-01-11;
- Sensor-Surface: 2mm (Mechanical Surface Detection),  $z = -2.0, 31.0$
- Electronics: DAE4 Sn1374; Calibrated: 2017-08-31
- Phantom: SAM1; Type: SAM; Serial: 1912
- DASY52 52.8.8(1222); SEMCAD X 14.6.10(7331)

**Body/d=10mm, Pin=250mW/Area Scan (7x11x1):** Measurement grid:  $dx=15$ mm,  $dy=15$ mm  
Maximum value of SAR (measured) = 11.2 W/kg

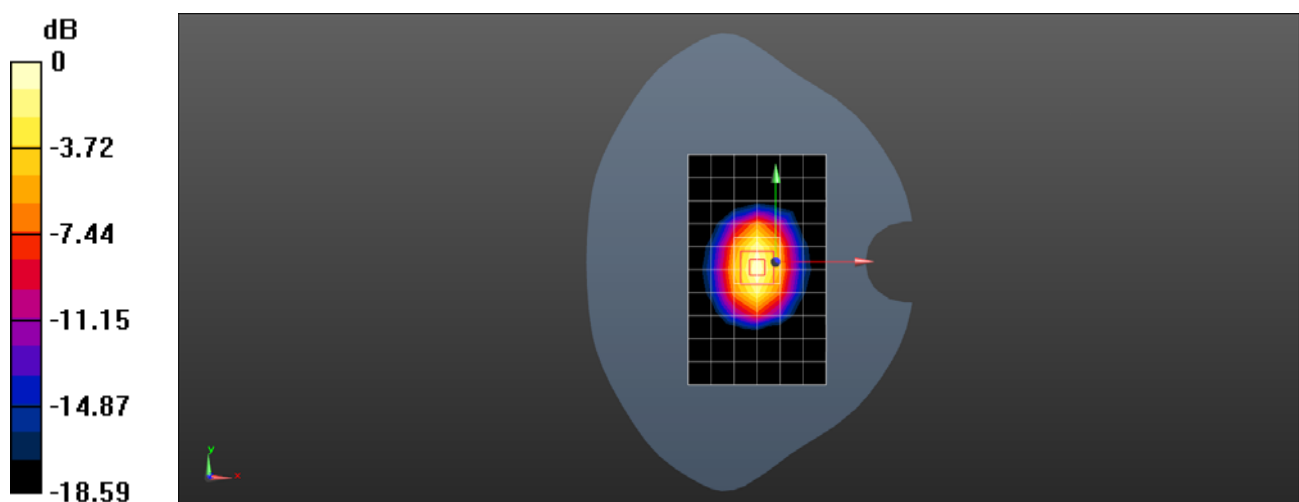
**Body/d=10mm, Pin=250mW/Zoom Scan (7x7x7) (7x7x7)/Cube 0:** Measurement grid:  
 $dx=5$ mm,  $dy=5$ mm,  $dz=5$ mm

Reference Value = 84.20 V/m; Power Drift = 0.12 dB

Peak SAR (extrapolated) = 19.1 W/kg

**SAR(1 g) = 10.1 W/kg; SAR(10 g) = 5.22 W/kg**

Maximum value of SAR (measured) = 11.3 W/kg



0 dB = 11.3 W/kg = 10.53 dBW/kg

Test Laboratory: SGS-SAR Lab

## System Performance Check 1900 MHz Body

**DUT: D1900V2; Type: D1900V2; Serial: 5d028**

Communication System: UID 0, CW (0); Frequency: 1900 MHz; Duty Cycle: 1:1

Medium: MSL1900; Medium parameters used:  $f = 1900$  MHz;  $\sigma = 1.519$  S/m;  $\epsilon_r = 52.421$ ;  $\rho = 1000$  kg/m<sup>3</sup>

Phantom section: Flat Section

DASY 5 Configuration:

- Probe: EX3DV4 - SN3962; ConvF(8.09, 8.09, 8.09); Calibrated: 2018-01-11;
- Sensor-Surface: 2mm (Mechanical Surface Detection),  $z = -2.0, 31.0$
- Electronics: DAE4 Sn1374; Calibrated: 2017-08-31
- Phantom: SAM1; Type: SAM; Serial: 1912
- DASY52 52.8.8(1222); SEMCAD X 14.6.10(7331)

**Body/d=10mm, Pin=250mW/Area Scan (7x11x1):** Measurement grid:  $dx=15$ mm,  $dy=15$ mm  
Maximum value of SAR (measured) = 11.6 W/kg

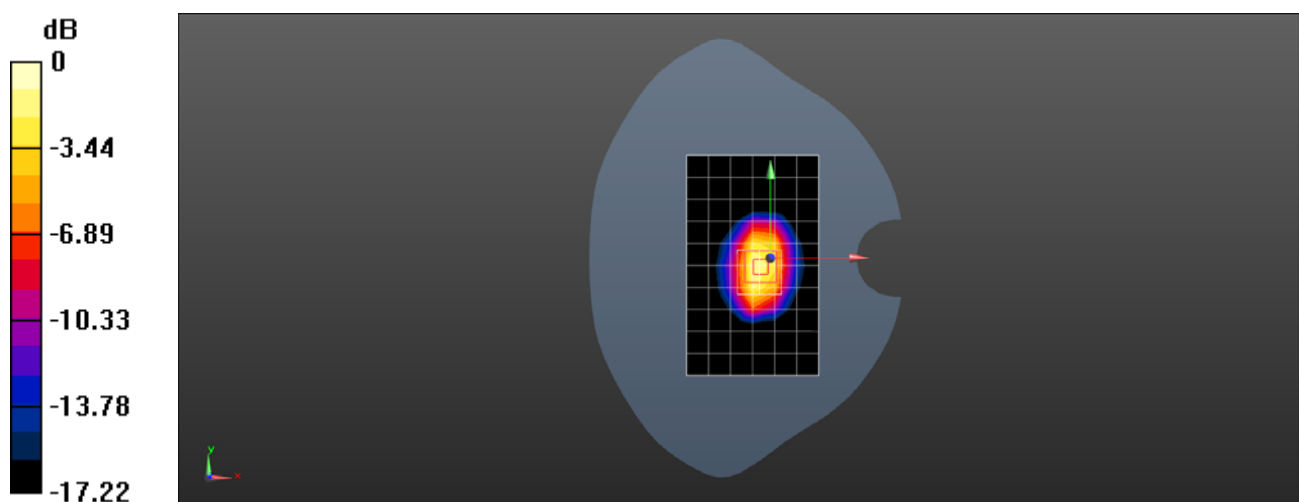
**Body/d=10mm, Pin=250mW/Zoom Scan (7x7x7) (7x7x7)/Cube 0:** Measurement grid:  
 $dx=5$ mm,  $dy=5$ mm,  $dz=5$ mm

Reference Value = 60.09 V/m; Power Drift = -0.05 dB

Peak SAR (extrapolated) = 18.4 W/kg

**SAR(1 g) = 10.3 W/kg; SAR(10 g) = 5.46 W/kg**

Maximum value of SAR (measured) = 14.5 W/kg



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

Test Laboratory: SGS-SAR Lab

## System Performance Check 2600MHz Head

**DUT: Dipole D2600V2; Type: D2600V2; Serial: 1125**

Communication System: UID 0, CW (0); Frequency: 2600 MHz; Duty Cycle: 1:1

Medium: HSL2600; Medium parameters used:  $f = 2600$  MHz;  $\sigma = 2.011$  S/m;  $\epsilon_r = 37.429$ ;  $\rho = 1000$  kg/m<sup>3</sup>

Phantom section: Flat Section

DASY 5 Configuration:

- Probe: EX3DV4 - SN3962; ConvF(7.52, 7.52, 7.52); Calibrated: 2018-01-11;
- Sensor-Surface: 2mm (Mechanical Surface Detection),  $z = -2.0, 31.0$
- Electronics: DAE4 Sn1374; Calibrated: 2017-08-31
- Phantom: SAM1; Type: SAM; Serial: 1912
- DASY52 52.8.8(1222); SEMCAD X 14.6.10(7331)

**Body/d=10mm, Pin=250mW/Area Scan (10x13x1):** Measurement grid:  $dx=10$ mm,  $dy=10$ mm

Maximum value of SAR (measured) = 14.6 W/kg

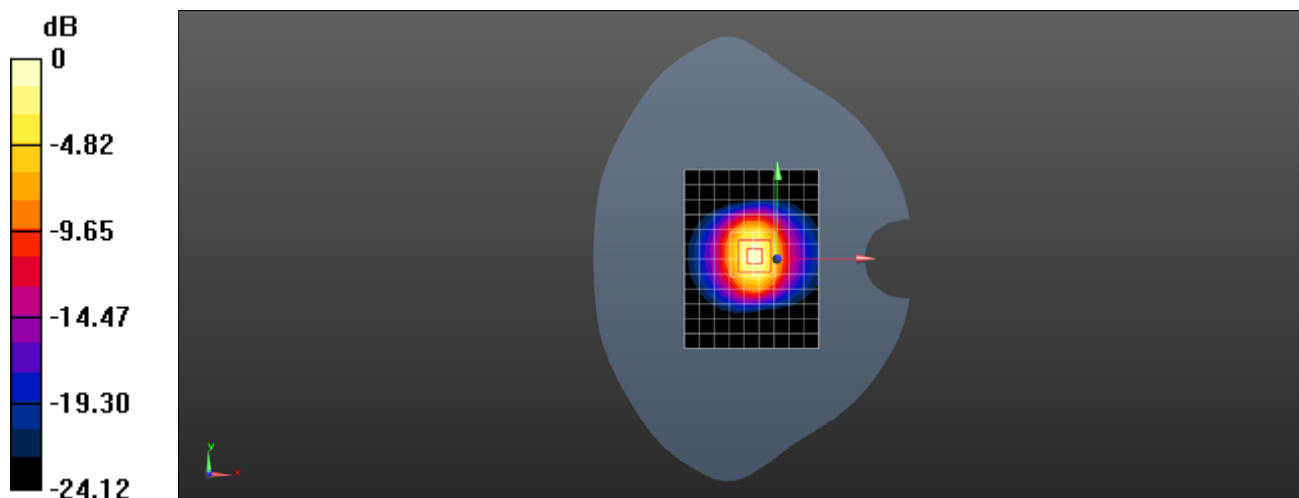
**Body/d=10mm, Pin=250mW/Zoom Scan (7x7x7) (7x7x7)/Cube 0:** Measurement grid:  $dx=5$ mm,  $dy=5$ mm,  $dz=5$ mm

Reference Value = 88.53 V/m; Power Drift = 0.07 dB

Peak SAR (extrapolated) = 32.1 W/kg

**SAR(1 g) = 14.3 W/kg; SAR(10 g) = 6.28 W/kg**

Maximum value of SAR (measured) = 16.3 W/kg



0 dB = 16.3 W/kg = 12.12 dBW/kg

Test Laboratory: SGS-SAR Lab

## System Performance Check 2600MHz Body

**DUT: D2600V2; Type: D2600V2; Serial: 1125**

Communication System: UID 0, CW (0); Frequency: 2600 MHz; Duty Cycle: 1:1

Medium: MSL2600; Medium parameters used:  $f = 2600$  MHz;  $\sigma = 2.161$  S/m;  $\epsilon_r = 52.216$ ;  $\rho = 1000$  kg/m<sup>3</sup>

Phantom section: Flat Section

DASY 5 Configuration:

- Probe: EX3DV4 - SN3962; ConvF(7.61, 7.61, 7.61); Calibrated: 2018-01-11;
- Sensor-Surface: 2mm (Mechanical Surface Detection),  $z = -2.0, 31.0$
- Electronics: DAE4 Sn1374; Calibrated: 2017-08-31
- Phantom: SAM2; Type: SAM; Serial: 1913
- DASY52 52.8.8(1222); SEMCAD X 14.6.10(7331)

**Body/d=10mm, Pin=250mW/Area Scan (10x11x1):** Measurement grid:  $dx=12$ mm,  $dy=12$ mm

Maximum value of SAR (measured) = 17.4 W/kg

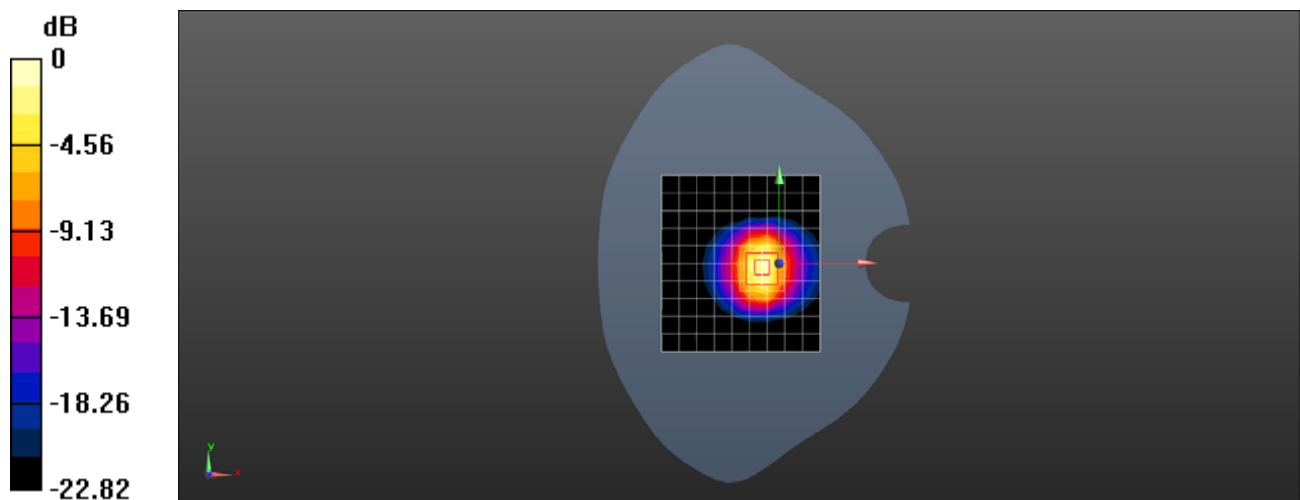
**Body/d=10mm, Pin=250mW/Zoom Scan (7x7x7) (7x7x7)/Cube 0:** Measurement grid:  $dx=5$ mm,  $dy=5$ mm,  $dz=5$ mm

Reference Value = 76.35 V/m; Power Drift = -0.11 dB

Peak SAR (extrapolated) = 27.5 W/kg

**SAR(1 g) = 13.3 W/kg; SAR(10 g) = 6.02 W/kg**

Maximum value of SAR (measured) = 20.6 W/kg



0 dB = 20.6 W/kg = 13.14 dBW/kg