Appendix A. SAR Plots of System Verification

The plots for system verification are shown as follows.

Test Laboratory: Bureau Veritas ADT SAR/HAC Testing Lab Date: 2012/09/21

System Check_H835_120921

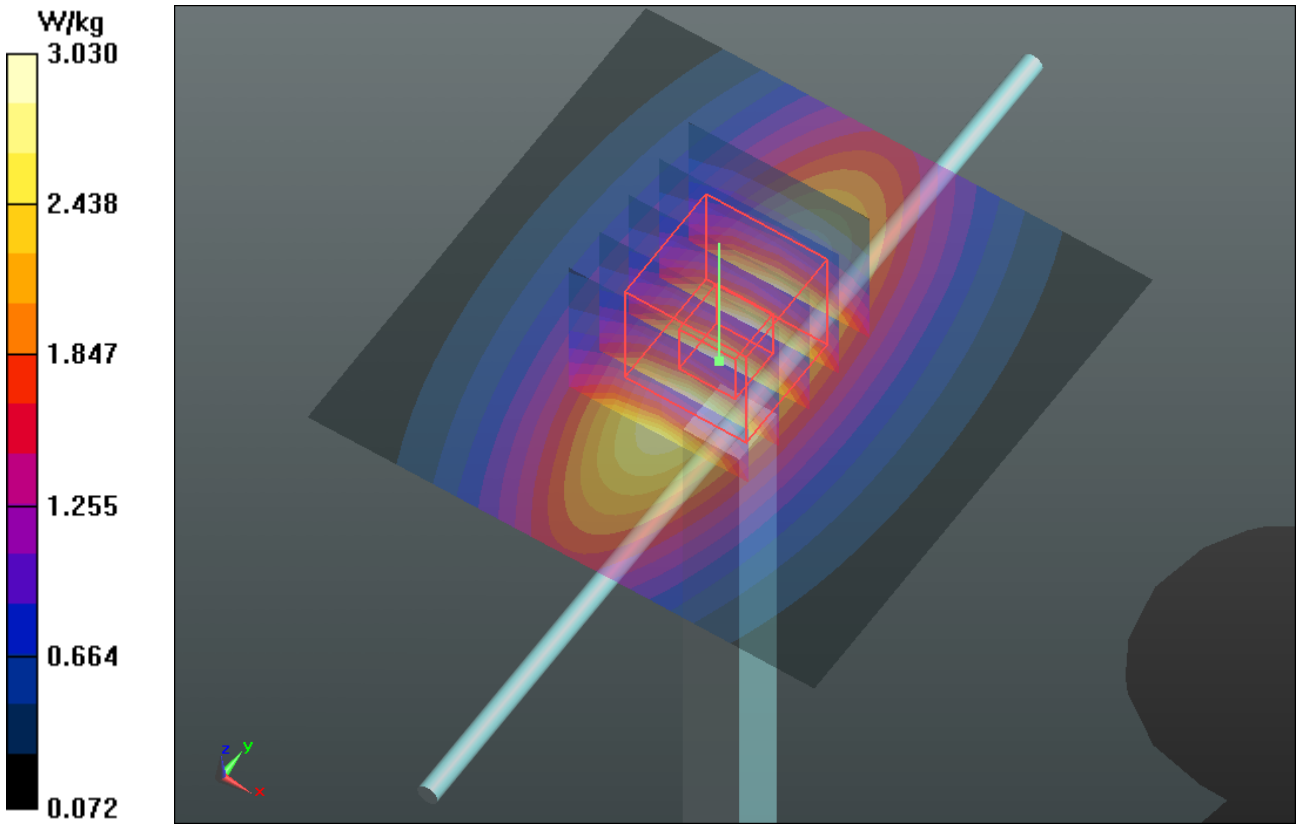
DUT: Dipole 835 MHz; Type: D835V2; SN: 4d021

Communication System: CW; Frequency: 835 MHz;Duty Cycle: 1:1
Medium: H835_0921 Medium parameters used: f = 835 MHz; σ = 0.913 mho/m; ε_r = 42.52; ρ = 1000 kg/m^3
Ambient Temperature：21.5 ℃; Liquid Temperature：20.6 ℃

DASY5 Configuration:
- Probe: EX3DV4 - SN3864; ConvF(9.8, 9.8, 9.8); Calibrated: 2012/07/19;
- Sensor-Surface: 2mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn1277; Calibrated: 2012/07/19
- Phantom: SAM Phantom_Front; Type: SAM V4.0; Serial: TP 1485
- Measurement SW: DASY52, Version 52.8 (2); SEMCAD X Version 14.6.6 (6824)

Pin=250mW/Area Scan (61x61x1): Measurement grid: dx=15mm, dy=15mm
Maximum value of SAR (interpolated) = 3.03 W/kg

Pin=250mW/Zoom Scan (5x5x7)/Cube 0: Measurement grid: dx=8mm, dy=8mm, dz=5mm
Reference Value = 55.363 V/m; Power Drift = 0.01 dB
Peak SAR (extrapolated) = 3.611 mW/g
SAR(1 g) = 2.38 mW/g; SAR(10 g) = 1.56 mW/g
Maximum value of SAR (measured) = 3.03 W/kg



System Check_H1900_120923

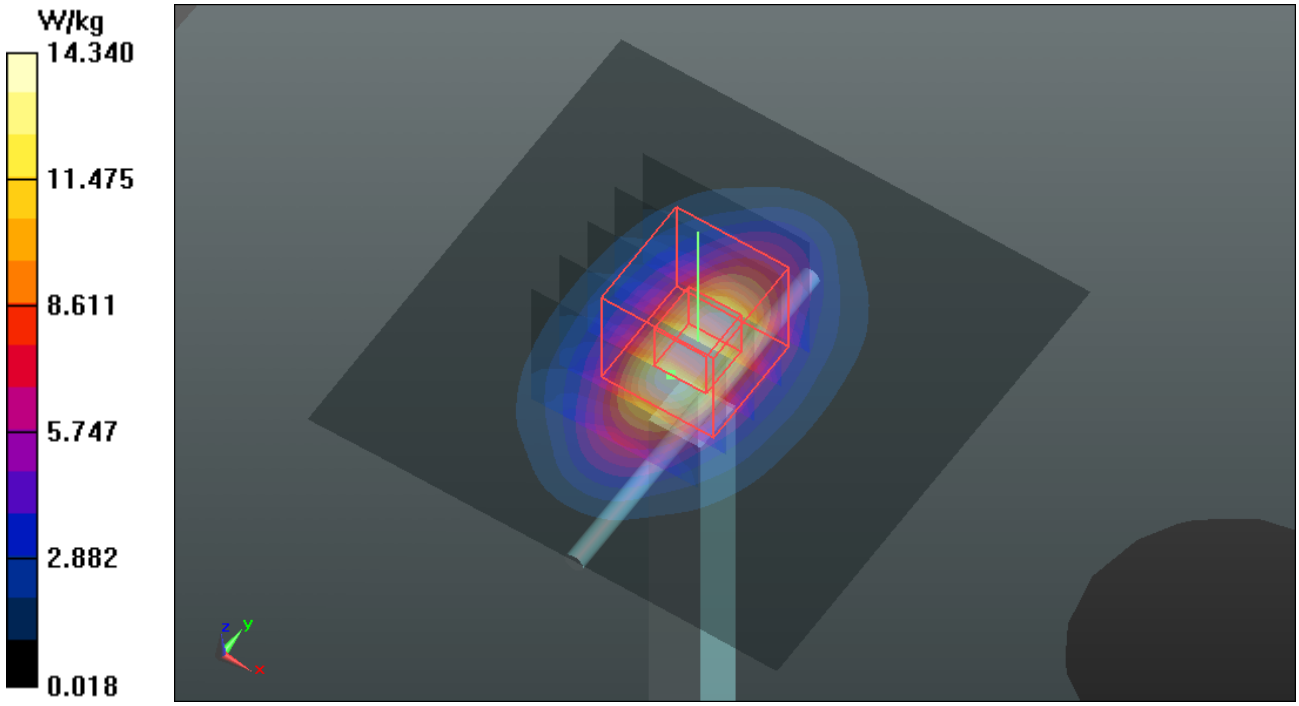
DUT: Dipole 1900 MHz; Type: D1900V2; SN: 5d036

Communication System: CW; Frequency: 1900 MHz;Duty Cycle: 1:1
Medium: H1900_0923 Medium parameters used: f = 1900 MHz; σ = 1.441 mho/m; ε_r = 39.728; ρ = 1000 kg/m^3
Ambient Temperature：21.8 ℃; Liquid Temperature：20.6 ℃

DASY5 Configuration:
- Probe: EX3DV4 - SN3650; ConvF(7.4, 7.4, 7.4); Calibrated: 2011/10/26;
- Sensor-Surface: 2mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn861; Calibrated: 2012/08/23
- Phantom: SAM Phantom_Front; Type: SAM V4.0; Serial: TP 1485
- Measurement SW: DASY52, Version 52.8 (2); SEMCAD X Version 14.6.6 (6824)

Pin=250mW/Area Scan (61x61x1): Measurement grid: dx=15mm, dy=15mm
Maximum value of SAR (interpolated) = 14.3 W/kg

Pin=250mW/Zoom Scan (5x5x7)/Cube 0: Measurement grid: dx=8mm, dy=8mm, dz=5mm
Reference Value = 99.645 V/m; Power Drift = 0.01 dB
Peak SAR (extrapolated) = 18.208 mW/g
SAR(1 g) = 9.55 mW/g; SAR(10 g) = 4.92 mW/g
Maximum value of SAR (measured) = 13.9 W/kg



System Check_H2450_121005

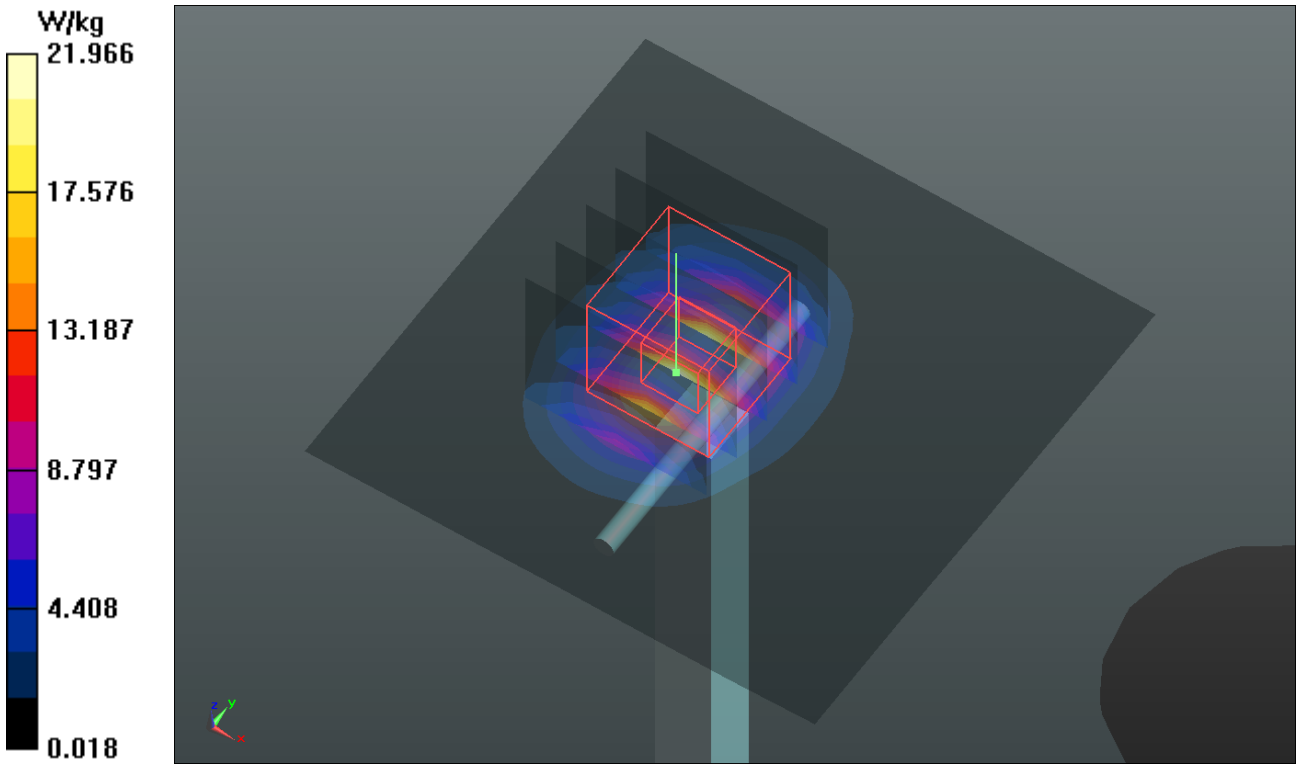
DUT: Dipole 2450 MHz; Type: D2450V2; SN: 737

Communication System: CW; Frequency: 2450 MHz;Duty Cycle: 1:1
Medium: H2450_1005 Medium parameters used: f = 2450 MHz; σ = 1.865 mho/m; ε_r = 40.552; ρ = 1000 kg/m^3
Ambient Temperature：21.6 ℃; Liquid Temperature：20.1 ℃

DASY5 Configuration:
- Probe: EX3DV4 - SN3590; ConvF(7.88, 7.88, 7.88); Calibrated: 2012/02/23;
- Sensor-Surface: 2mm (Mechanical Surface Detection)
- Electronics: DAE3 Sn579; Calibrated: 2012/04/27
- Phantom: SAM with CRP v5.0 Front; Type: QD000P40CD; Serial: TP:1653
- Measurement SW: DASY52, Version 52.8 (2); SEMCAD X Version 14.6.6 (6824)

Pin=250mW/Area Scan (61x61x1): Measurement grid: dx=15mm, dy=15mm
Maximum value of SAR (interpolated) = 22.0 W/kg

Pin=250mW/Zoom Scan (5x5x7)/Cube 0: Measurement grid: dx=8mm, dy=8mm, dz=5mm
Reference Value = 108.1 V/m; Power Drift = -0.13 dB
Peak SAR (extrapolated) = 27.771 mW/g
SAR(1 g) = 13.1 mW/g; SAR(10 g) = 5.93 mW/g
Maximum value of SAR (measured) = 20.1 W/kg



System Check_H5200_121007

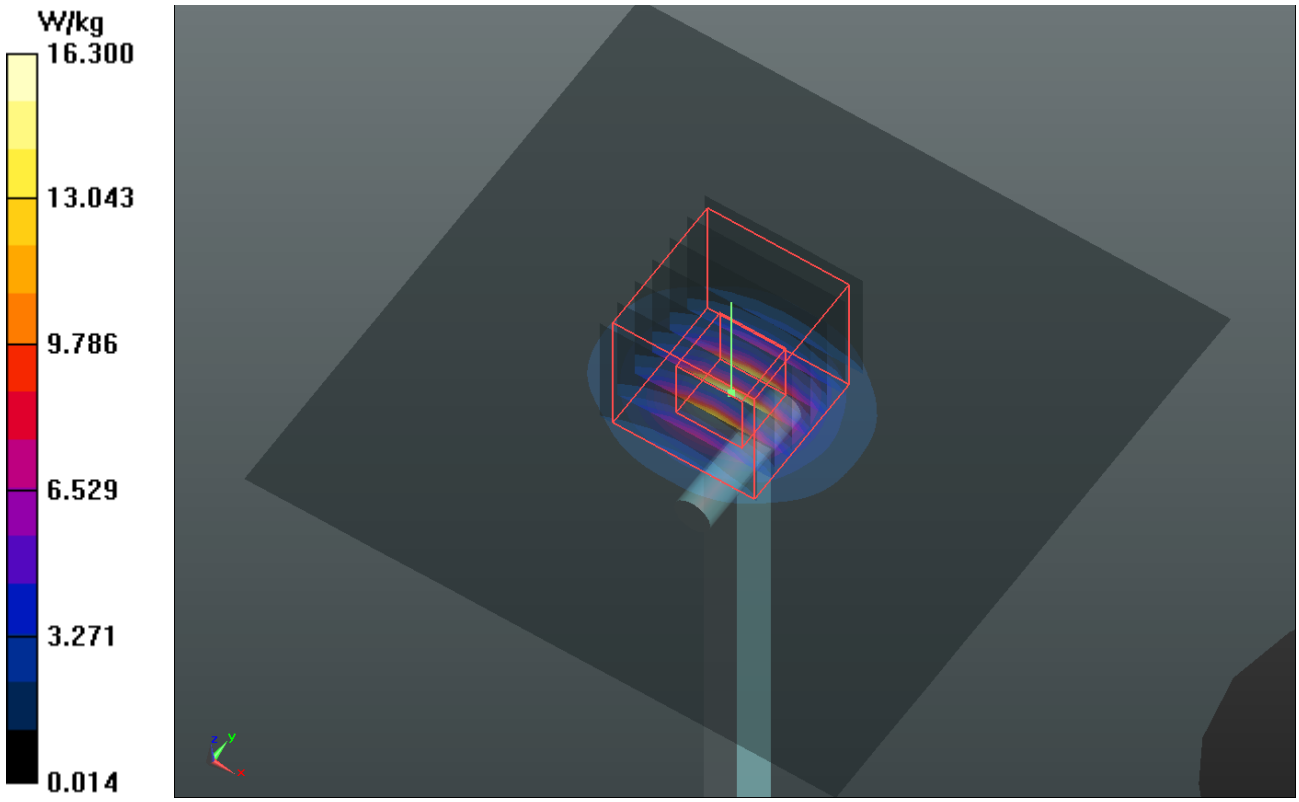
DUT: Dipole 5 GHz; Type: D5GHzV2; SN: 1018

Communication System: CW; Frequency: 5200 MHz;Duty Cycle: 1:1
Medium: H5G_1007 Medium parameters used: f = 5200 MHz; σ = 4.688 mho/m; ε_r = 36.999; ρ = 1000 kg/m^3
Ambient Temperature：21.6 ℃; Liquid Temperature：20.3 ℃

DASY5 Configuration:
- Probe: EX3DV4 - SN3820; ConvF(5.15, 5.15, 5.15); Calibrated: 2011/12/16;
- Sensor-Surface: 2mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn1277; Calibrated: 2012/07/19
- Phantom: SAM with CRP v5.0 Front; Type: QD000P40CD; Serial: TP:1653
- Measurement SW: DASY52, Version 52.8 (2); SEMCAD X Version 14.6.6 (6824)

Pin=100mW/Area Scan (91x91x1): Measurement grid: dx=10mm, dy=10mm
Maximum value of SAR (interpolated) = 16.3 W/kg

Pin=100mW/Zoom Scan (7x7x9)/Cube 0: Measurement grid: dx=4mm, dy=4mm, dz=2.5mm
Reference Value = 62.786 V/m; Power Drift = -0.01 dB
Peak SAR (extrapolated) = 32.632 mW/g
SAR(1 g) = 7.78 mW/g; SAR(10 g) = 2.2 mW/g
Maximum value of SAR (measured) = 16.5 W/kg



System Check_H5500_121007

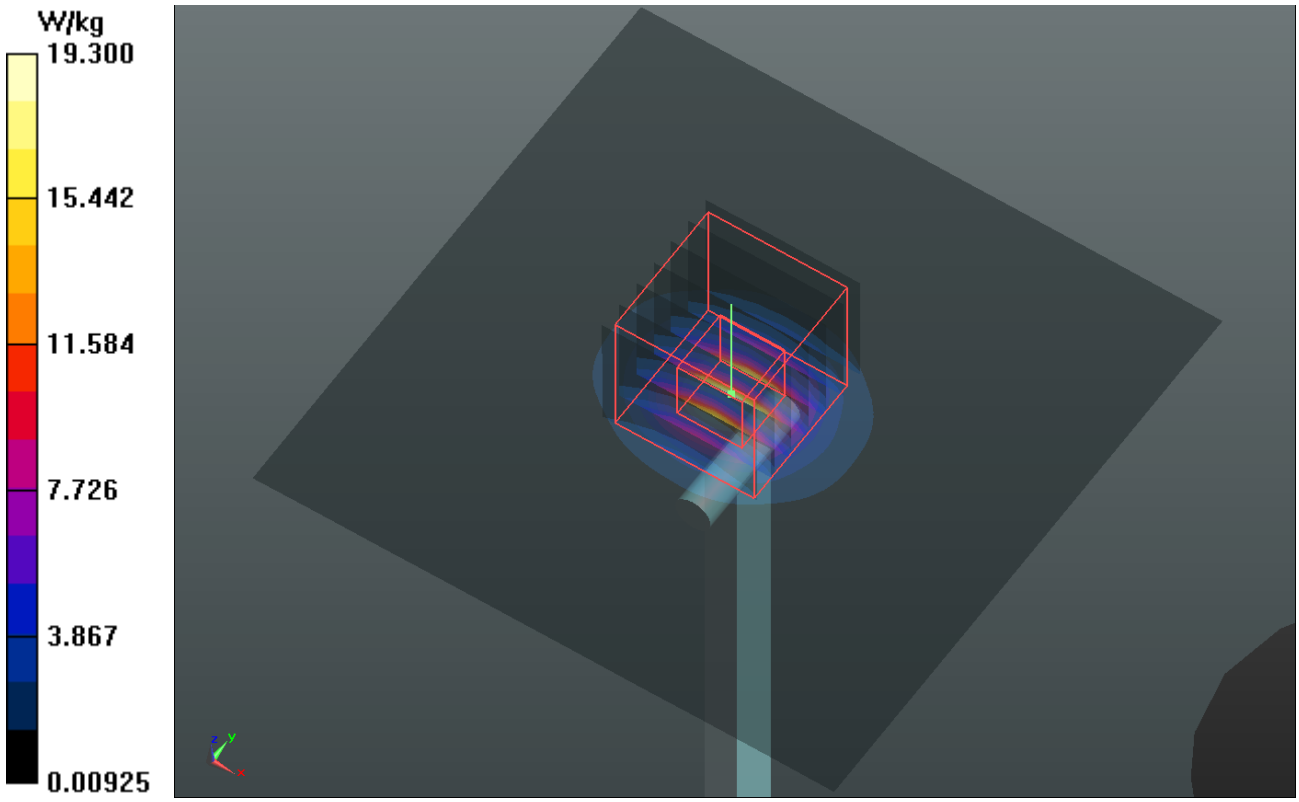
DUT: Dipole 5 GHz; Type: D5GHzV2; SN: 1018

Communication System: CW; Frequency: 5500 MHz;Duty Cycle: 1:1
Medium: H5G_1007 Medium parameters used: f = 5500 MHz; σ = 5.065 mho/m; ε_r = 36.364; ρ = 1000 kg/m^3
Ambient Temperature：21.6 ℃; Liquid Temperature：20.3 ℃

DASY5 Configuration:
- Probe: EX3DV4 - SN3820; ConvF(4.59, 4.59, 4.59); Calibrated: 2011/12/16;
- Sensor-Surface: 2mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn1277; Calibrated: 2012/07/19
- Phantom: SAM with CRP v5.0 Front; Type: QD000P40CD; Serial: TP:1653
- Measurement SW: DASY52, Version 52.8 (2); SEMCAD X Version 14.6.6 (6824)

Pin=100mW/Area Scan (91x91x1): Measurement grid: dx=10mm, dy=10mm
Maximum value of SAR (interpolated) = 19.3 W/kg

Pin=100mW/Zoom Scan (7x7x9)/Cube 0: Measurement grid: dx=4mm, dy=4mm, dz=2.5mm
Reference Value = 66.795 V/m; Power Drift = -0.15 dB
Peak SAR (extrapolated) = 38.502 mW/g
SAR(1 g) = 8.96 mW/g; SAR(10 g) = 2.51 mW/g
Maximum value of SAR (measured) = 19.2 W/kg



Test Laboratory: Bureau Veritas ADT SAR/HAC Testing Lab Date: 2012/09/24

System Check_B835_120924

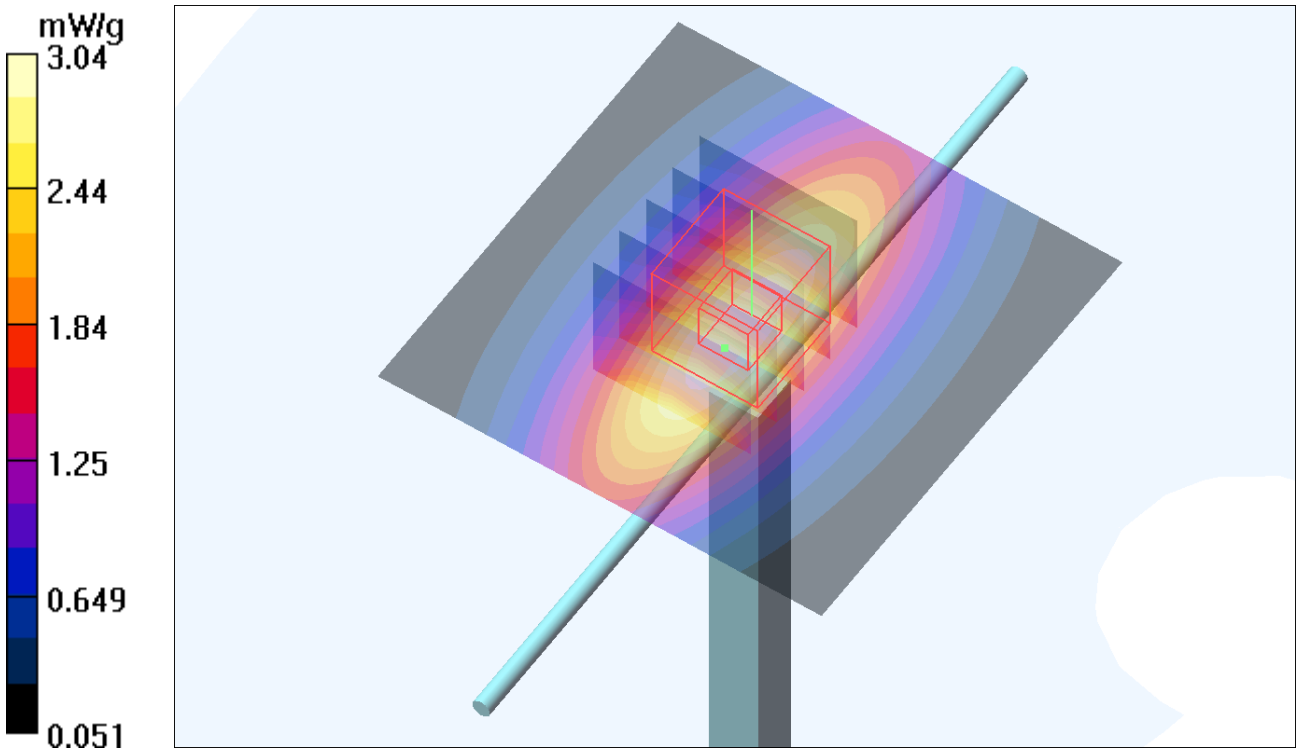
DUT: Dipole 835 MHz; Type: D835V2; SN: 4d021

Communication System: CW; Frequency: 835 MHz;Duty Cycle: 1:1
Medium: B835_0924 Medium parameters used: f = 835 MHz; σ = 0.98 mho/m; ε_r = 55.9; ρ = 1000 kg/m^3
Ambient Temperature：21.7 ℃； Liquid Temperature：20.5 ℃

DASY4 Configuration:
- Probe: EX3DV4 - SN3864; ConvF(9.94, 9.94, 9.94); Calibrated: 2012/07/19
- Sensor-Surface: 2mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn1277; Calibrated: 2012/07/19
- Phantom: SAM Phantom_Left; Type: SAM V4.0; Serial: TP 1652
- Measurement SW: DASY4, V4.7 Build 80; Postprocessing SW: SEMCAD, V1.8 Build 186

Pin=250mW/Area Scan (61x61x1): Measurement grid: dx=15mm, dy=15mm
Maximum value of SAR (interpolated) = 3.04 mW/g

Pin=250mW/Zoom Scan (5x5x7)/Cube 0: Measurement grid: dx=8mm, dy=8mm, dz=5mm
Reference Value = 53.6 V/m; Power Drift = -0.015 dB
Peak SAR (extrapolated) = 3.53 W/kg
SAR(1 g) = 2.38 mW/g; SAR(10 g) = 1.57 mW/g
Maximum value of SAR (measured) = 3.00 mW/g



System Check_B1900_120925

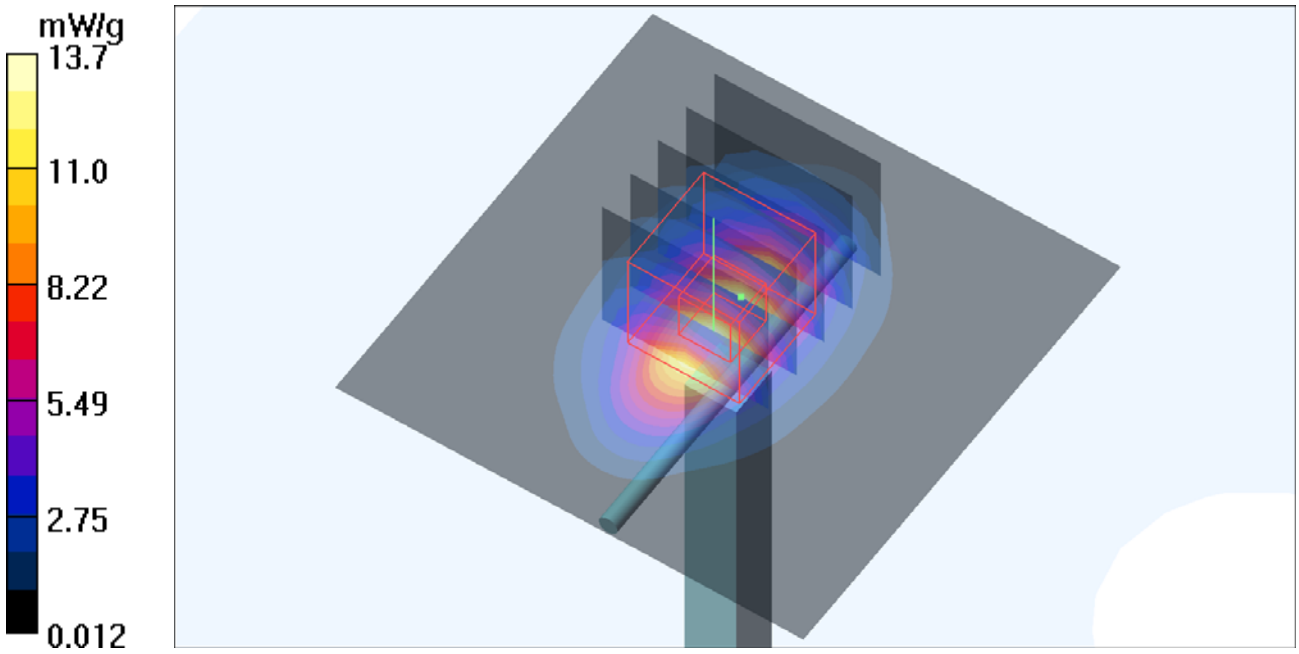
DUT: Dipole 1900 MHz; Type: D1900V2; SN: 5d036

Communication System: CW; Frequency: 1900 MHz;Duty Cycle: 1:1
Medium: B1900_0925 Medium parameters used: f = 1900 MHz; σ = 1.55 mho/m; ε_r = 52.8; ρ = 1000 kg/m^3
Ambient Temperature：21.9 ℃； Liquid Temperature：20.3 ℃

DASY4 Configuration:
- Probe: EX3DV4 - SN3590; ConvF(8.07, 8.07, 8.07); Calibrated: 2012/02/23
- Sensor-Surface: 2mm (Mechanical Surface Detection)
- Electronics: DAE3 Sn579; Calibrated: 2012/04/27
- Phantom: SAM Phantom_Left; Type: SAM V4.0; Serial: TP 1652
- Measurement SW: DASY4, V4.7 Build 80; Postprocessing SW: SEMCAD, V1.8 Build 186

Pin=250mW/Area Scan (61x61x1): Measurement grid: dx=15mm, dy=15mm
Maximum value of SAR (interpolated) = 13.7 mW/g

Pin=250mW/Zoom Scan (5x5x7)/Cube 0: Measurement grid: dx=8mm, dy=8mm, dz=5mm
Reference Value = 94.5 V/m; Power Drift = -0.007 dB
Peak SAR (extrapolated) = 16.6 W/kg
SAR(1 g) = 9.43 mW/g; SAR(10 g) = 4.94 mW/g
Maximum value of SAR (measured) = 13.3 mW/g



System Check_B2450_121007

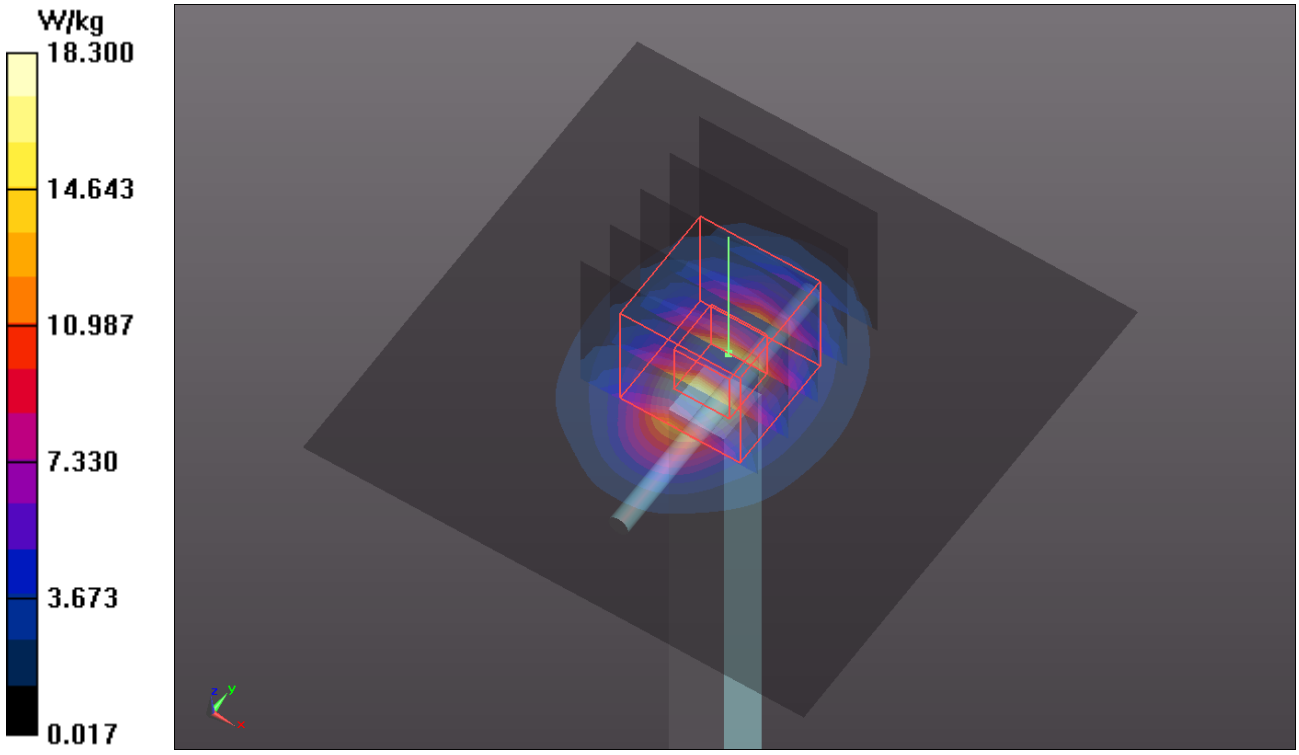
DUT: Dipole 2450 MHz; Type: D2450V2; SN: 737

Communication System: CW; Frequency: 2450 MHz;Duty Cycle: 1:1
Medium: B2450_1007 Medium parameters used: f = 2450 MHz; σ = 2.016 mho/m; ε_r = 52.949; ρ = 1000 kg/m^3
Ambient Temperature：22.5 ℃; Liquid Temperature：21.5 ℃

DASY5 Configuration:
- Probe: EX3DV4 - SN3820; ConvF(7.34, 7.34, 7.34); Calibrated: 2011/12/16;
- Sensor-Surface: 2mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn1277; Calibrated: 2012/07/19
- Phantom: ELI v4.0; Type: QDOVA001BA; Serial: TP:1043
- Measurement SW: DASY52, Version 52.8 (2); SEMCAD X Version 14.6.6 (6824)

Pin=250mW/Area Scan (61x61x1): Measurement grid: dx=15mm, dy=15mm
Maximum value of SAR (interpolated) = 18.3 W/kg

Pin=250mW/Zoom Scan (5x5x7)/Cube 0: Measurement grid: dx=8mm, dy=8mm, dz=5mm
Reference Value = 94.768 V/m; Power Drift = -0.02 dB
Peak SAR (extrapolated) = 24.839 mW/g
SAR(1 g) = 11.8 mW/g; SAR(10 g) = 5.42 mW/g
Maximum value of SAR (measured) = 17.7 W/kg



System Check_B5200_121004

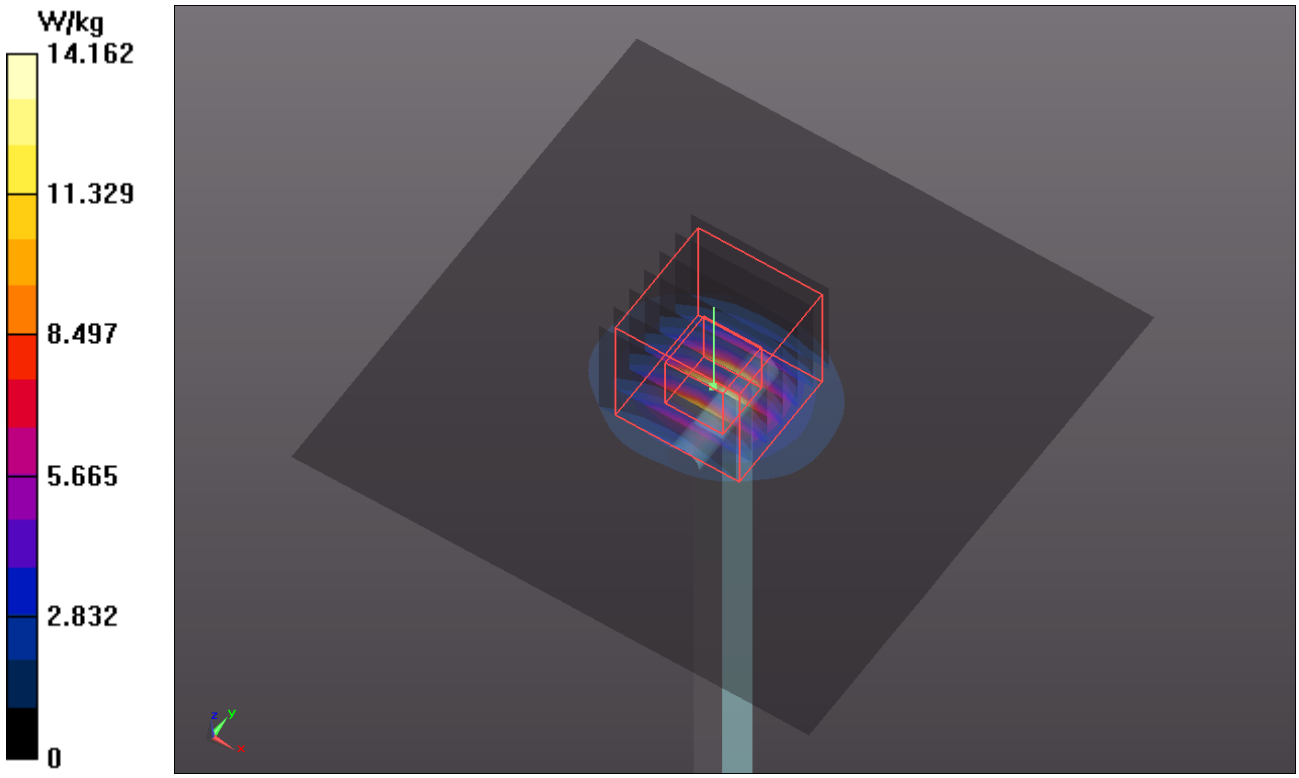
DUT: Dipole 5 GHz; Type: D5GHzV2; SN: 1018

Communication System: CW; Frequency: 5200 MHz;Duty Cycle: 1:1
Medium: B5G_1004 Medium parameters used: f = 5200 MHz; σ = 5.278 mho/m; ε_r = 48.936; ρ = 1000 kg/m^3
Ambient Temperature：21.8 ℃； Liquid Temperature：20.2 ℃

DASY5 Configuration:
- Probe: EX3DV4 - SN3590; ConvF(4.89, 4.89, 4.89); Calibrated: 2012/02/23;
- Sensor-Surface: 2mm (Mechanical Surface Detection)
- Electronics: DAE3 Sn579; Calibrated: 2012/04/27
- Phantom: ELI v4.0; Type: QDOVA001BA; Serial: TP:1043
- Measurement SW: DASY52, Version 52.8 (2); SEMCAD X Version 14.6.6 (6824)

Pin=100mW/Area Scan (91x91x1): Measurement grid: dx=10mm, dy=10mm
Maximum value of SAR (interpolated) = 14.2 W/kg

Pin=100mW/Zoom Scan (7x7x9)/Cube 0: Measurement grid: dx=4mm, dy=4mm, dz=2.5mm
Reference Value = 58.141 V/m; Power Drift = -0.04 dB
Peak SAR (extrapolated) = 25.866 mW/g
SAR(1 g) = 6.93 mW/g; SAR(10 g) = 1.96 mW/g
Maximum value of SAR (measured) = 14.7 W/kg



System Check_B5200_121005

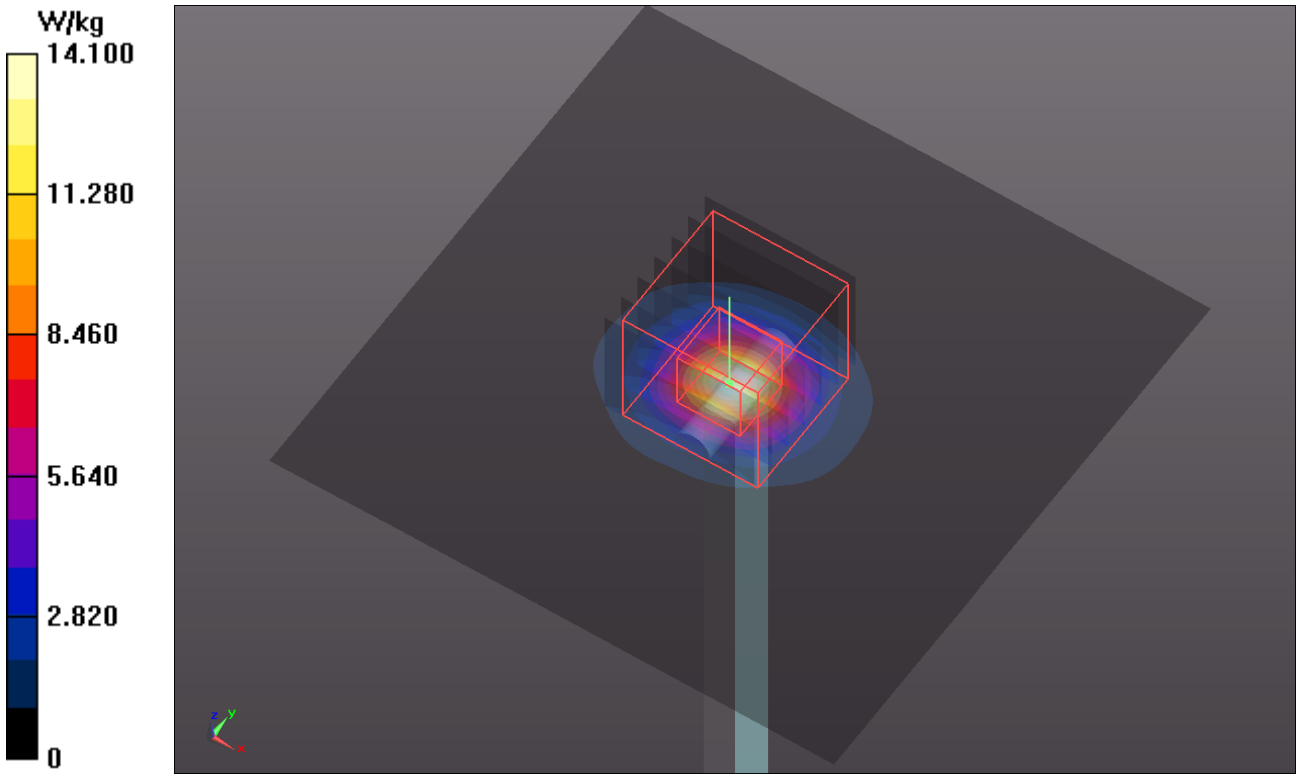
DUT: Dipole 5 GHz; Type: D5GHzV2; SN: 1018

Communication System: CW; Frequency: 5200 MHz;Duty Cycle: 1:1
Medium: B5G_1005 Medium parameters used: f = 5200 MHz; σ = 5.243 mho/m; ε_r = 49.431; ρ = 1000 kg/m^3
Ambient Temperature：21.6 ℃； Liquid Temperature：20.4 ℃

DASY5 Configuration:
- Probe: EX3DV4 - SN3590; ConvF(4.89, 4.89, 4.89); Calibrated: 2012/02/23;
- Sensor-Surface: 2mm (Mechanical Surface Detection)
- Electronics: DAE3 Sn579; Calibrated: 2012/04/27
- Phantom: ELI v4.0; Type: QDOVA001BA; Serial: TP:1043
- Measurement SW: DASY52, Version 52.8 (2); SEMCAD X Version 14.6.6 (6824)

Pin=100mW/Area Scan (91x91x1): Measurement grid: dx=10mm, dy=10mm
Maximum value of SAR (interpolated) = 14.1 W/kg

Pin=100mW/Zoom Scan (7x7x9)/Cube 0: Measurement grid: dx=4mm, dy=4mm, dz=2.5mm
Reference Value = 58.141 V/m; Power Drift = -0.04 dB
Peak SAR (extrapolated) = 25.693 mW/g
SAR(1 g) = 6.88 mW/g; SAR(10 g) = 1.95 mW/g
Maximum value of SAR (measured) = 14.6 W/kg



System Check_B5500_121005

DUT: Dipole 5 GHz; Type: D5GHzV2; SN: 1018

Communication System: CW; Frequency: 5500 MHz;Duty Cycle: 1:1
Medium: B5G_1005 Medium parameters used: f = 5500 MHz; σ = 5.693 mho/m; ε_r = 48.944; ρ = 1000 kg/m^3
Ambient Temperature：21.6 ℃; Liquid Temperature：20.4 ℃

DASY5 Configuration:
- Probe: EX3DV4 - SN3590; ConvF(4.35, 4.35, 4.35); Calibrated: 2012/02/23;
- Sensor-Surface: 2mm (Mechanical Surface Detection)
- Electronics: DAE3 Sn579; Calibrated: 2012/04/27
- Phantom: ELI v4.0; Type: QDOVA001BA; Serial: TP:1043
- Measurement SW: DASY52, Version 52.8 (2); SEMCAD X Version 14.6.6 (6824)

Pin=100mW/Area Scan (91x91x1): Measurement grid: dx=10mm, dy=10mm
Maximum value of SAR (interpolated) = 16.5 W/kg

Pin=100mW/Zoom Scan (7x7x9)/Cube 0: Measurement grid: dx=4mm, dy=4mm, dz=2.5mm
Reference Value = 60.257 V/m; Power Drift = 0.01 dB
Peak SAR (extrapolated) = 30.488 mW/g
SAR(1 g) = 7.82 mW/g; SAR(10 g) = 2.11 mW/g
Maximum value of SAR (measured) = 16.0 W/kg