

Appendix B - System Performance Check Plots

Date: 2023/11/6

System Performance Check at 2450 MHz

DUT: D2450V2_SN712

Communication System: UID 0, CW (0); Frequency: 2450 MHz;Duty Cycle: 1:1
 Medium parameters used: $f = 2450$ MHz; $\sigma = 1.777$ S/m; $\epsilon_r = 39.559$; $\rho = 1000$ kg/m³
 Phantom section: Flat Section
 Measurement Standard: DASYS

DASY5.2 Configuration:

- Area Scan setting - Find Secondary Maximum Within:2.0dB and with a peak SAR value greater than 0.5 W/Kg
- Probe: EX3DV4 - SN7647; ConvF(8.05, 8.05, 8.05) @ 2450 MHz; Calibrated: 2023/4/26
- Sensor-Surface: 1.4mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn1253; Calibrated: 2022/12/16
- Phantom: ELI; Type: QD OVA 002 AA; Serial: 1175
- Measurement SW: DASY52, Version 52.10 (4); SEMCAD X Version 14.6.14 (7501)

System Performance Check at 2450MHz/Area Scan (81x81x1): Interpolated grid: dx=1.200 mm, dy=1.200 mm
 Maximum value of SAR (interpolated) = 4.16 W/kg

System Performance Check at 2450MHz/Zoom Scan (7x7x7)/Cube 0: Measurement grid: dx=5mm, dy=5mm, dz=5mm

Reference Value = 50.71 V/m; Power Drift = -0.06 dB

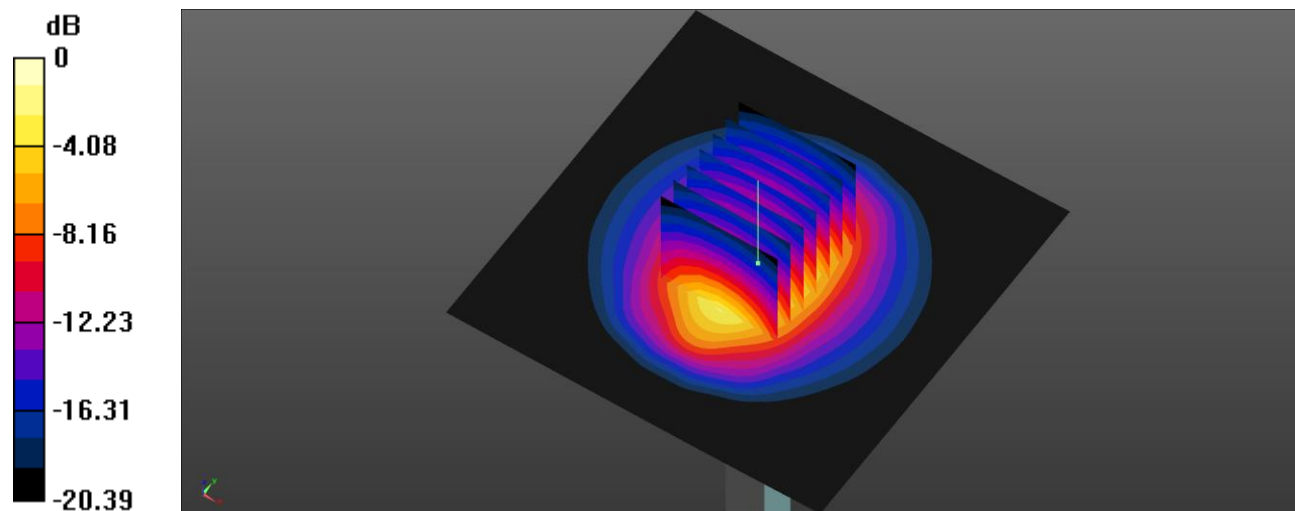
Peak SAR (extrapolated) = 5.09 W/kg

SAR(1 g) = 2.54 W/kg; SAR(10 g) = 1.21 W/kg

Smallest distance from peaks to all points 3 dB below = 9 mm

Ratio of SAR at M2 to SAR at M1 = 50.7%

Maximum value of SAR (measured) = 4.18 W/kg



0 dB = 4.18 W/kg = 6.21 dBW/kg

Date: 2023/11/7

System Performance Check at 5250 MHz

DUT: D5GHzV2_SN1021

Communication System: UID 0, CW (0); Frequency: 5250 MHz; Duty Cycle: 1:1
 Medium parameters used: $f = 5250$ MHz; $\sigma = 4.545$ S/m; $\epsilon_r = 34.54$; $\rho = 1000$ kg/m³
 Phantom section: Flat Section
 Measurement Standard: DASYS

DASY5.2 Configuration:

- Area Scan setting - Find Secondary Maximum Within:2.0dB and with a peak SAR value greater than 0.5 W/Kg
- Probe: EX3DV4 - SN7647; ConvF(5.6, 5.6, 5.6) @ 5250 MHz; Calibrated: 2023/4/26
- Sensor-Surface: 1.4mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn1253; Calibrated: 2022/12/16
- Phantom: ELI; Type: QD OVA 002 AA; Serial: 1175
- Measurement SW: DASY52, Version 52.10 (4); SEMCAD X Version 14.6.14 (7501)

System Performance Check at 5250MHz/Area Scan (91x91x1): Interpolated grid: dx=1.000 mm, dy=1.000 mm
 Maximum value of SAR (interpolated) = 8.13 W/kg

System Performance Check at 5250MHz/Zoom Scan (7x7x7)/Cube 0: Measurement grid: dx=4mm, dy=4mm, dz=1.4mm

Reference Value = 45.84 V/m; Power Drift = -0.11 dB

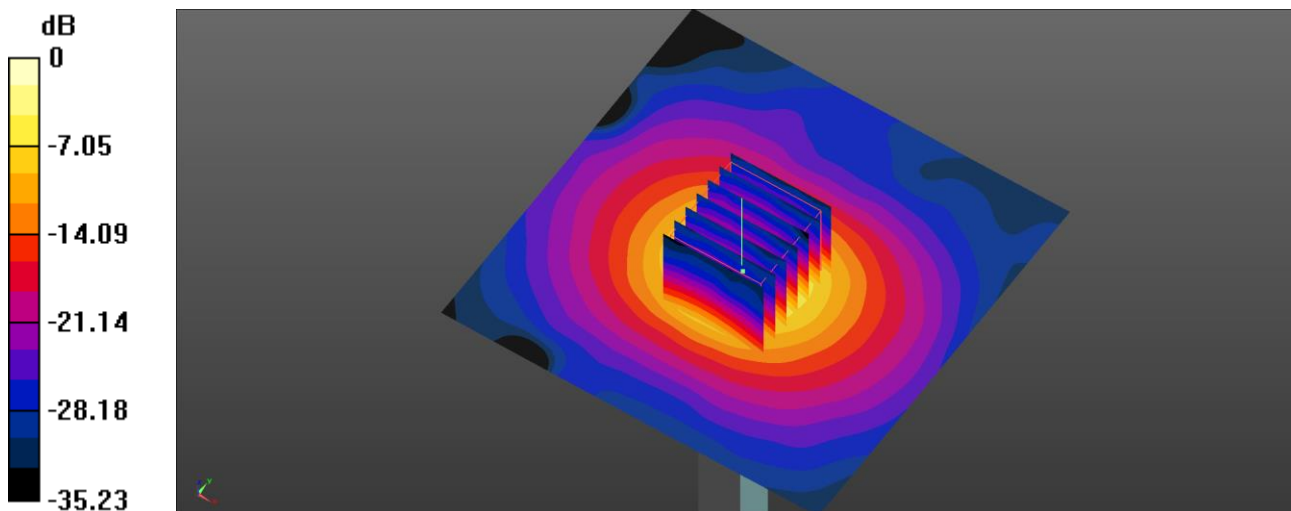
Peak SAR (extrapolated) = 13.8 W/kg

SAR(1 g) = 3.69 W/kg; SAR(10 g) = 1.06 W/kg

Smallest distance from peaks to all points 3 dB below = 7.9 mm

Ratio of SAR at M2 to SAR at M1 = 65.5%

Maximum value of SAR (measured) = 8.20 W/kg



0 dB = 8.20 W/kg = 9.14 dBW/kg

Date: 2023/11/8

System Performance Check at 5600 MHz

DUT: D5GHzV2_SN1021

Communication System: UID 0, CW (0); Frequency: 5600 MHz; Duty Cycle: 1:1
 Medium parameters used: $f = 5600$ MHz; $\sigma = 4.881$ S/m; $\epsilon_r = 34.416$; $\rho = 1000$ kg/m³
 Phantom section: Flat Section
 Measurement Standard: DASYS

DASY5.2 Configuration:

- Area Scan setting - Find Secondary Maximum Within: 2.0dB and with a peak SAR value greater than 0.5 W/Kg
- Probe: EX3DV4 - SN7647; ConvF(5.08, 5.08, 5.08) @ 5600 MHz; Calibrated: 2023/4/26
- Sensor-Surface: 1.4mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn1253; Calibrated: 2022/12/16
- Phantom: ELI; Type: QD OVA 002 AA; Serial: 1175
- Measurement SW: DASY52, Version 52.10 (4); SEMCAD X Version 14.6.14 (7501)

System Performance Check at 5600MHz/Area Scan (91x91x1): Interpolated grid: dx=1.000 mm, dy=1.000 mm
 Maximum value of SAR (interpolated) = 9.71 W/kg

System Performance Check at 5600MHz/Zoom Scan (7x7x7)/Cube 0: Measurement grid: dx=4mm, dy=4mm, dz=1.4mm

Reference Value = 47.73 V/m; Power Drift = -0.10 dB

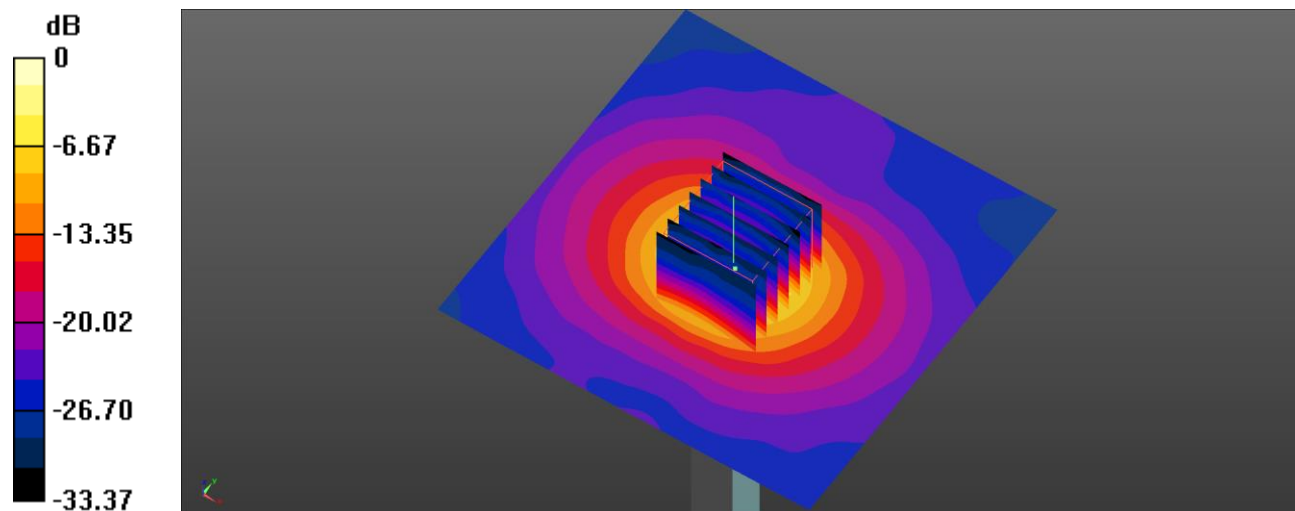
Peak SAR (extrapolated) = 17.5 W/kg

SAR(1 g) = 4.02 W/kg; SAR(10 g) = 1.16 W/kg

Smallest distance from peaks to all points 3 dB below = 7.9 mm

Ratio of SAR at M2 to SAR at M1 = 61.7%

Maximum value of SAR (measured) = 9.96 W/kg



0 dB = 9.96 W/kg = 9.98 dBW/kg

Date: 2023/11/9

System Performance Check at 5800 MHz

DUT: D5GHzV2_SN1021

Communication System: UID 0, CW (0); Frequency: 5800 MHz; Duty Cycle: 1:1
Medium parameters used: $f = 5800$ MHz; $\sigma = 5.114$ S/m; $\epsilon_r = 34.193$; $\rho = 1000$ kg/m³
Phantom section: Flat Section
Measurement Standard: DASYS

DASY5.2 Configuration:

- Area Scan setting - Find Secondary Maximum Within: 2.0dB and with a peak SAR value greater than 0.5 W/Kg
- Probe: EX3DV4 - SN7647; ConvF(5.05, 5.05, 5.05) @ 5800 MHz; Calibrated: 2023/4/26
- Sensor-Surface: 1.4mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn1253; Calibrated: 2022/12/16
- Phantom: ELI; Type: QD OVA 002 AA; Serial: 1175
- Measurement SW: DASY52, Version 52.10 (4); SEMCAD X Version 14.6.14 (7501)

System Performance Check at 5800MHz/Area Scan (91x91x1): Interpolated grid: dx=1.000 mm, dy=1.000 mm
Maximum value of SAR (interpolated) = 9.30 W/kg

System Performance Check at 5800MHz/Zoom Scan (8x8x7)/Cube 0: Measurement grid: dx=4mm, dy=4mm, dz=1.4mm

Reference Value = 47.34 V/m; Power Drift = 0.09 dB

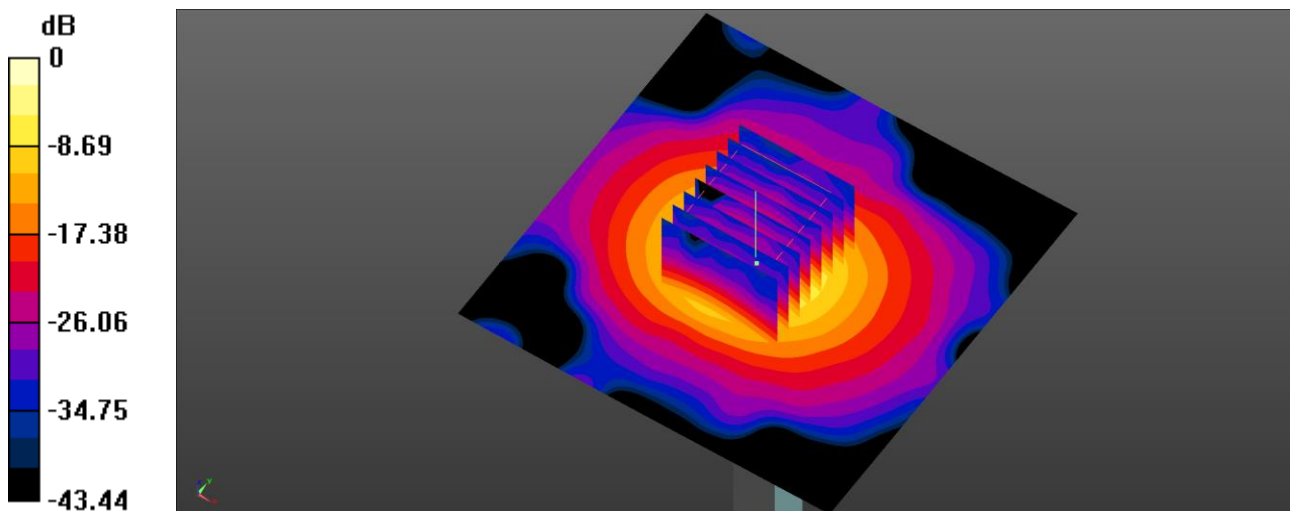
Peak SAR (extrapolated) = 17.5 W/kg

SAR(1 g) = 3.78 W/kg; SAR(10 g) = 1.07 W/kg

Smallest distance from peaks to all points 3 dB below = 7.5 mm

Ratio of SAR at M2 to SAR at M1 = 60.5%

Maximum value of SAR (measured) = 9.76 W/kg



0 dB = 9.76 W/kg = 9.89 dBW/kg

Test Date : 2023-11-10 | Ambient Temp : 23.2 °C | Tissue Temp : 22.5 °C

System Performance Check

System Performance Check at 6500 MHz

Verification Source Properties

Manufacturer	Model No.	Serial No.	Input Power [dBm]
SPEAG	D6.5GHzV2	1016	20.0

Exposure Conditions

Phantom Section	Group	Frequency [MHz]	Conversion Factor	TSL Conductivity [S/m]	TSL Permittivity
Flat	CW	6500.0	5.65	5.69	32

Hardware Setup

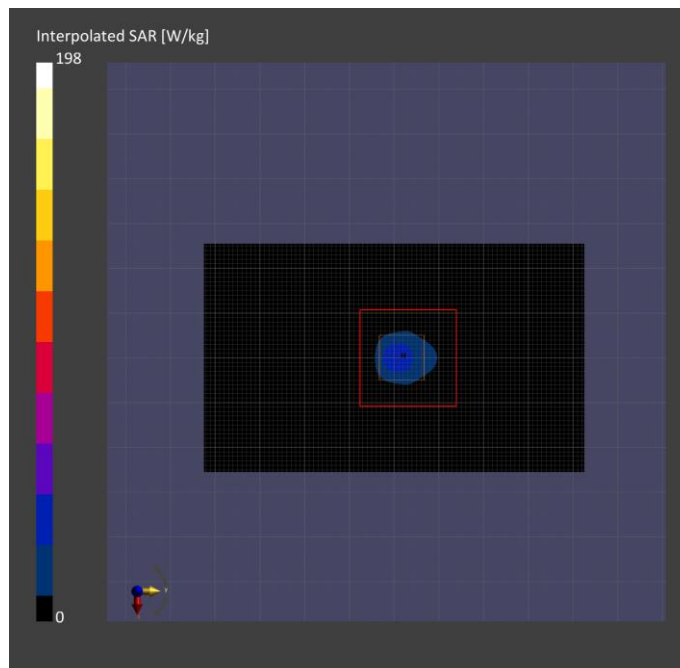
Phantom	Tissue Simulating Liquid	Probe Calibration Date	DAE Calibration Date
ELI V5.0 (20deg probe tilt) - 1175	H51T72N2	EX3DV4 - SN7647 / 2023-04-26	DAE4 Sn1253 / 2022-12-16

Scan Setup

	Area Scan	Zoom Scan
Grid Extents [mm]	51.0 x 85.0	22.0 x 22.0 x 22.0
Grid Steps [mm]	8.5 x 8.5	3.4 x 3.4 x 1.4
Sensor Surface [mm]	3.0	1.4
Graded Grid	N/A	Yes
Grading Ratio	N/A	1.4

Measurement Results

	Area Scan	Zoom Scan
psSAR-1g [W/kg]	25.5	29.6
psSAR-8g [W/kg]	6.24	6.76
psSAR-10g [W/kg]	5.17	5.56
psAPD (1.0 cm ² , sq) [W/m ²]		296
psAPD (4.0 cm ² , sq) [W/m ²]		135
Power Drift [dB]		0.01
TSL Correction	Positive only	Positive only



Test Date : 2023-11-11 | Ambient Temp : 23.0 °C

System Performance Check

System Performance Check at 10 GHz

Verification Source Properties

Manufacturer	Model No.	Serial No.
SPEAG	10GHz	1060

Exposure Conditions

Phantom Section	Group	Frequency [MHz]	Conversion Factor
5G	CW	10000.0	1.0

Hardware Setup

Phantom	Medium	Probe Calibration Date	DAE Calibration Date
mmWave - 5G Phantom	Air	EUmmWV4 - SN9639_F1-55GHz / 2023-08-18	DAE4 Sn1253 / 2022-12-16

Scan Setup

	5G Scan
Grid Extents [mm]	120.0 x 120.0
Grid Steps [mm]	0.25 x 0.25
Sensor Surface [mm]	10.0

Measurement Results

	5G Scan
Avg. Area [cm ²]	4.00
psPD n+ [W/m ²]	52.4
psPD tot+ [W/m ²]	54.5
psPD mod+ [W/m ²]	54.7
E max [V/m]	156
Power Drift [dB]	0.07

