

Appendix B - System Performance Check Plots

Date: 2023/12/16

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; $\sigma = 1.815$ S/m; $\epsilon_r = 38.689$; $\rho = 1000$ 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 - SN3847; ConvF(7.33, 7.5, 7.2) @ 2450 MHz; Calibrated: 2023/3/23
- Sensor-Surface: 1.4mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn541; Calibrated: 2023/3/22
- 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) = 3.99 W/kg

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

Reference Value = 49.24 V/m; Power Drift = 0.03 dB

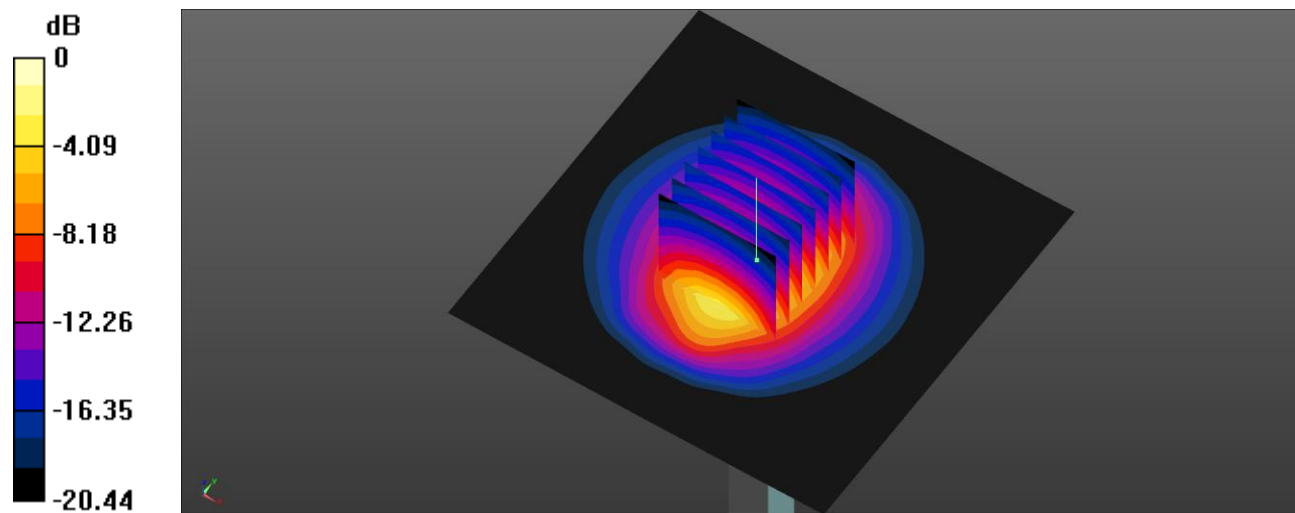
Peak SAR (extrapolated) = 4.72 W/kg

SAR(1 g) = 2.48 W/kg; SAR(10 g) = 1.19 W/kg

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

Ratio of SAR at M2 to SAR at M1 = 53.2%

Maximum value of SAR (measured) = 3.98 W/kg



0 dB = 3.98 W/kg = 6.00 dBW/kg

Date: 2023/12/15

System Performance Check at 5250 MHz

DUT: D5GHzV2_SN1358

Communication System: UID 0, CW (0); Frequency: 5250 MHz; Duty Cycle: 1:1
 Medium parameters used: $f = 5250 \text{ MHz}$; $\sigma = 4.506 \text{ S/m}$; $\epsilon_r = 34.468$; $\rho = 1000 \text{ kg/m}^3$
 Phantom section: Flat Section
 Measurement Standard: DASYS

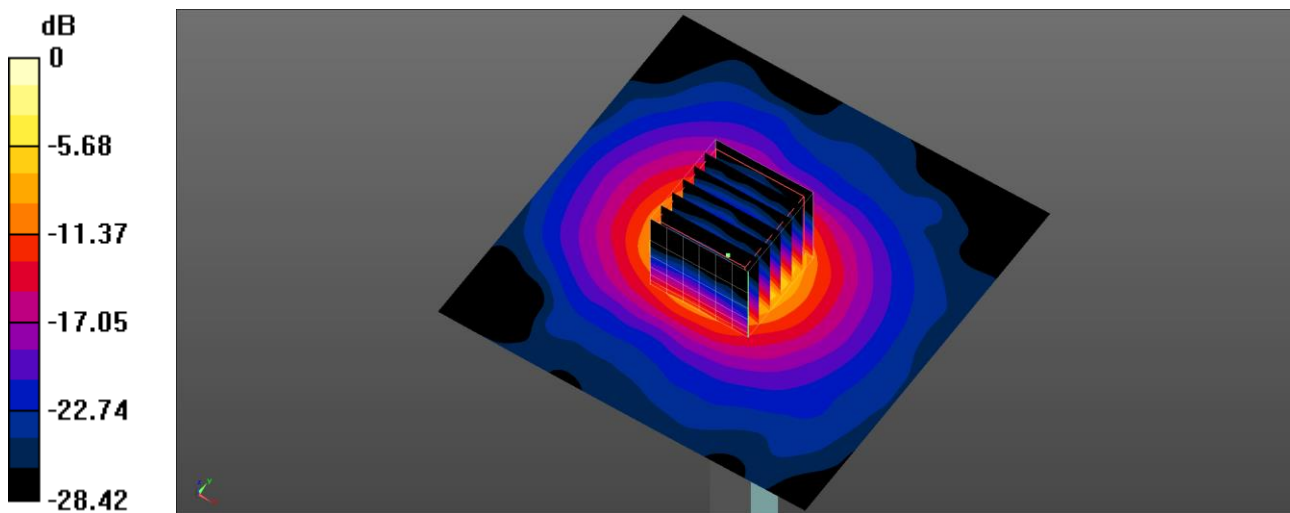
DASY5.2 Configuration:

- Area Scan setting - Find Secondary Maximum Within: 2.0dB and with a peak SAR value greater than 0.5 W/Kg
- Probe: EX3DV4 - SN3847; ConvF(5.24, 5.27, 5.14) @ 5250 MHz; Calibrated: 2023/3/23
- Sensor-Surface: 1.4mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn541; Calibrated: 2023/3/22
- 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: $dx=1.000 \text{ mm}$, $dy=1.000 \text{ mm}$
 Maximum value of SAR (interpolated) = 9.56 W/kg

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

Reference Value = 47.22 V/m; Power Drift = 0.05 dB
 Peak SAR (extrapolated) = 16.3 W/kg
SAR(1 g) = 3.95 W/kg; SAR(10 g) = 1.11 W/kg
 Smallest distance from peaks to all points 3 dB below = 7.4 mm
 Ratio of SAR at M2 to SAR at M1 = 63.9%
 Maximum value of SAR (measured) = 9.63 W/kg



0 dB = 9.63 W/kg = 9.84 dBW/kg

Date: 2023/12/15

System Performance Check at 5600 MHz

DUT: D5GHzV2_SN1358

Communication System: UID 0, CW (0); Frequency: 5600 MHz; Duty Cycle: 1:1
 Medium parameters used: $f = 5600$ MHz; $\sigma = 4.812$ S/m; $\epsilon_r = 34.099$; $\rho = 1000$ 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 - SN3847; ConvF(4.5, 4.5, 4.41) @ 5600 MHz; Calibrated: 2023/3/23
- Sensor-Surface: 1.4mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn541; Calibrated: 2023/3/22
- 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) = 10.3 W/kg

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

Reference Value = 54.19 V/m; Power Drift = 0.04 dB

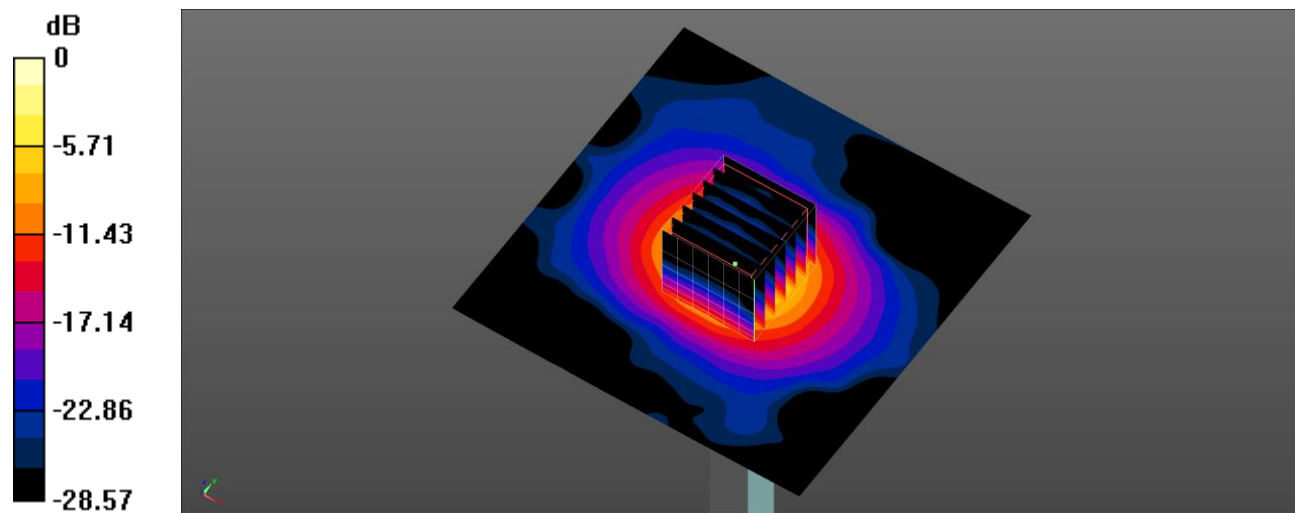
Peak SAR (extrapolated) = 18.3 W/kg

SAR(1 g) = 4.3 W/kg; SAR(10 g) = 1.2 W/kg

Smallest distance from peaks to all points 3 dB below = 7.4 mm

Ratio of SAR at M2 to SAR at M1 = 63%

Maximum value of SAR (measured) = 10.8 W/kg



0 dB = 10.8 W/kg = 10.33 dBW/kg

Date: 2023/12/15

System Performance Check at 5800MHz

DUT: D5GHzV2_SN1358

Communication System: UID 0, CW (0); Frequency: 5800 MHz; Duty Cycle: 1:1
 Medium parameters used: $f = 5800$ MHz; $\sigma = 5.045$ S/m; $\epsilon_r = 33.749$; $\rho = 1000$ kg/m³
 Phantom section: Flat Section
 Measurement Standard: DASYS

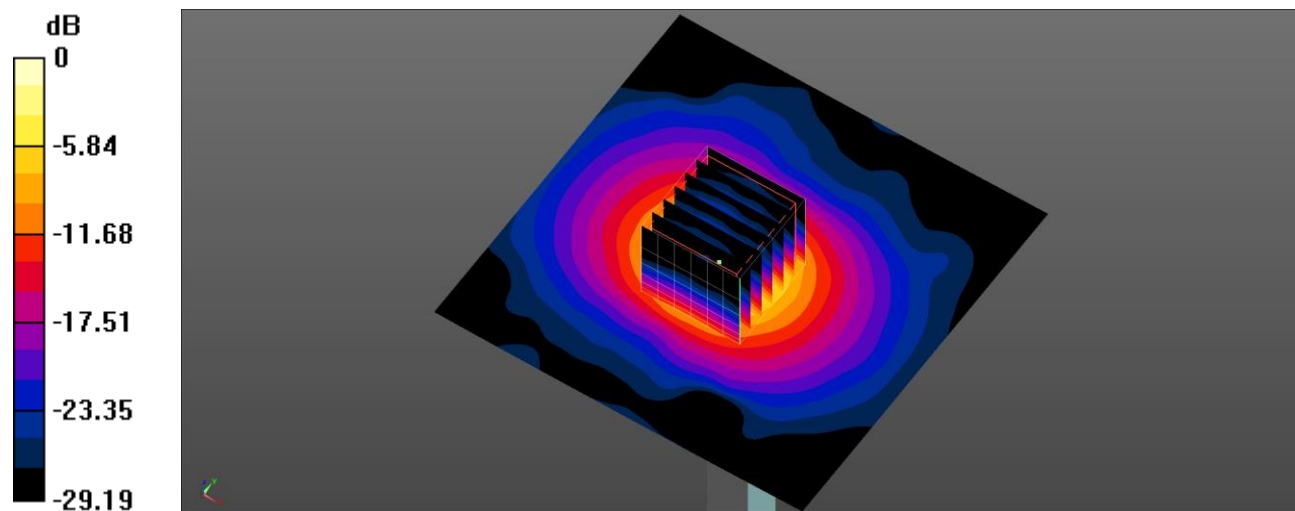
DASY5.2 Configuration:

- Area Scan setting - Find Secondary Maximum Within:2.0dB and with a peak SAR value greater than 0.5 W/Kg
- Probe: EX3DV4 - SN3847; ConvF(4.62, 4.66, 4.53) @ 5800 MHz; Calibrated: 2023/3/23
- Sensor-Surface: 1.4mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn541; Calibrated: 2023/3/22
- 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) = 9.77 W/kg

System Performance Check at 5800MHz/Zoom Scan (7x7x7)/Cube 0: Measurement grid: dx=4mm, dy=4mm, dz=1.4mm

Reference Value = 46.36 V/m; Power Drift = 0.06 dB
 Peak SAR (extrapolated) = 17.5 W/kg
SAR(1 g) = 3.85 W/kg; SAR(10 g) = 1.08 W/kg
 Smallest distance from peaks to all points 3 dB below = 7.9 mm
 Ratio of SAR at M2 to SAR at M1 = 61.3%
 Maximum value of SAR (measured) = 9.60 W/kg



0 dB = 9.60 W/kg = 9.82 dBW/kg

Test Date : 2023-12-14 | Ambient Temp : 23.2 °C | Tissue Temp : 22.1 °C

System Performance Check

System Performance Check at 6500 MHz

Verification Source Properties

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

Exposure Conditions

Phantom Section	Group	Frequency [MHz]	Conversion Factor	TSL Conductivity [S/m]	TSL Permittivity
Flat	CW	6500.000	5.6	6.09	32.3

Hardware Setup

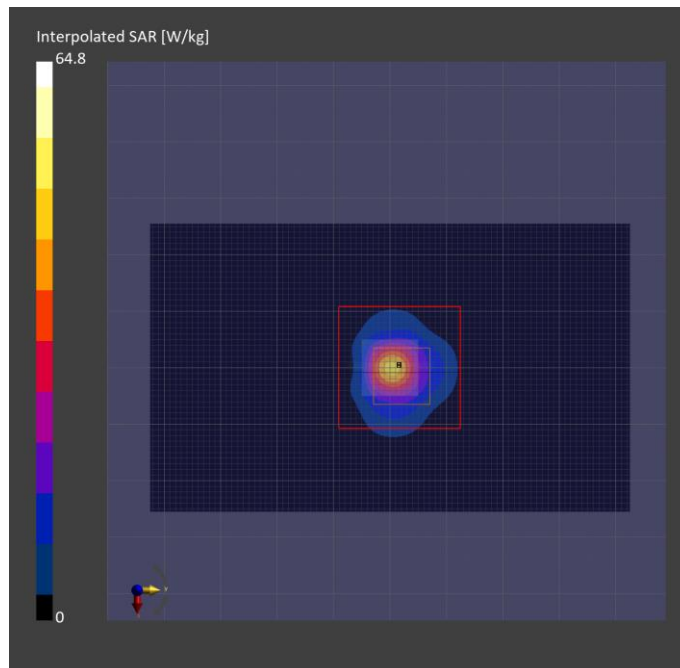
Phantom	Tissue Simulating Liquid	Probe Calibration Date	DAE Calibration Date
ELI V5.0 (20deg probe tilt) - 1175	H51T71N2	EX3DV4 - SN3847 2023-03-23	DAE4 Sn541 2023-03-22

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]	23.6	29.5
psSAR-8g [W/kg]	5.75	6.68
psSAR-10g [W/kg]	4.78	5.42
psAPD (1.0 cm ² , sq) [W/m ²]		295
psAPD (4.0 cm ² , sq) [W/m ²]		141
Power Drift [dB]		-0.13
TSL Correction	Positive only	Positive only



Test Date : 2023-12-18 | Ambient Temp : 22.8 °C

System Performance Check

System Performance Check at 10 GHz

Verification Source Properties

Manufacturer	Model No.	Serial No.
SPEAG	10 GHz	2003

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 Sn541 2023-03-22

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]	158
psPD tot+ [W/m ²]	161
psPD mod+ [W/m ²]	166
E max [V/m]	288
Power Drift [dB]	0.08

