Appendix B - System Performance Check Plots

Date: 2022/11/14

System Performance Check at 2450 MHz

DUT: D2450V2_SN712

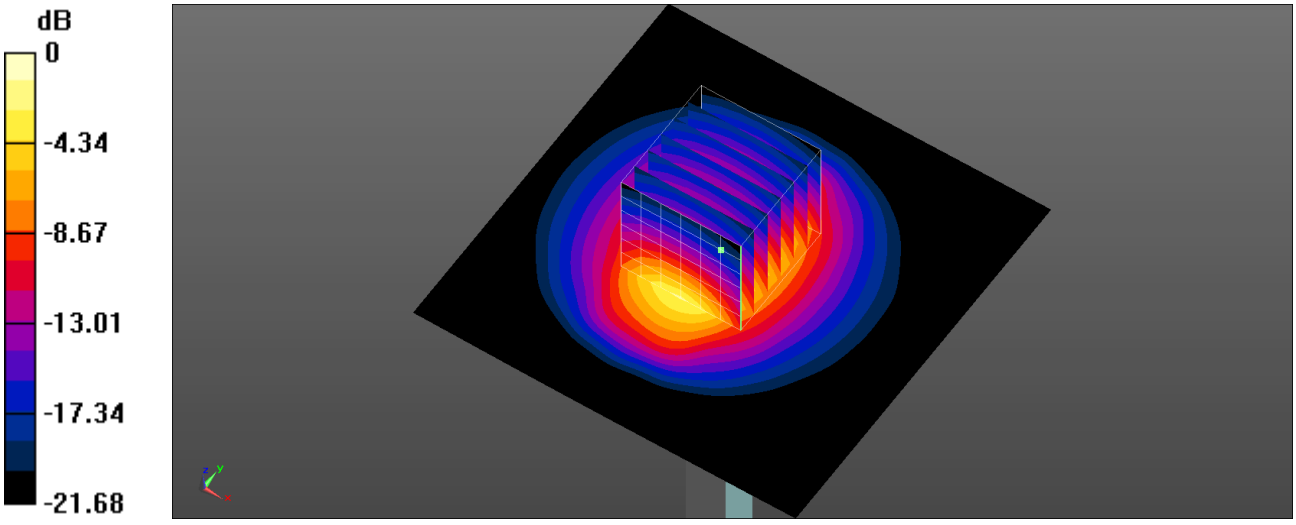
Communication System: UID 0, CW (0); Frequency: 2450 MHz;Duty Cycle: 1:1
Medium parameters used: f = 2450 MHz; σ = 1.765 S/m; ε_r = 39.068; ρ = 1000 kg/m^3
Phantom section: Flat Section
Measurement Standard: DASY5 (IEEE/IEC/ANSI C63.19-2007)

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(8.13, 8.13, 8.13) @ 2450 MHz; Calibrated: 2022/4/27
- Sensor-Surface: 1.4mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn1253; Calibrated: 2021/12/30
- Phantom: ELI; Type: QD OVA 002 AA; Serial: 1133
- 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) = 4.23 W/kg

System Performance Check at 2450MHz/Zoom Scan (7x7x7)/Cube 0: Measurement grid: dx=5mm, dy=5mm, dz=5mm
Reference Value = 49.61 V/m; Power Drift = -0.05 dB
Peak SAR (extrapolated) = 5.31 W/kg
SAR(1 g) = 2.56 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 = 48.2%
Maximum value of SAR (measured) = 4.30 W/kg



0 dB = 4.30 W/kg = 6.33 dBW/kg

Date: 2022/11/15

System Performance Check at 5250 MHz

DUT: D5GHzV2_SN1021

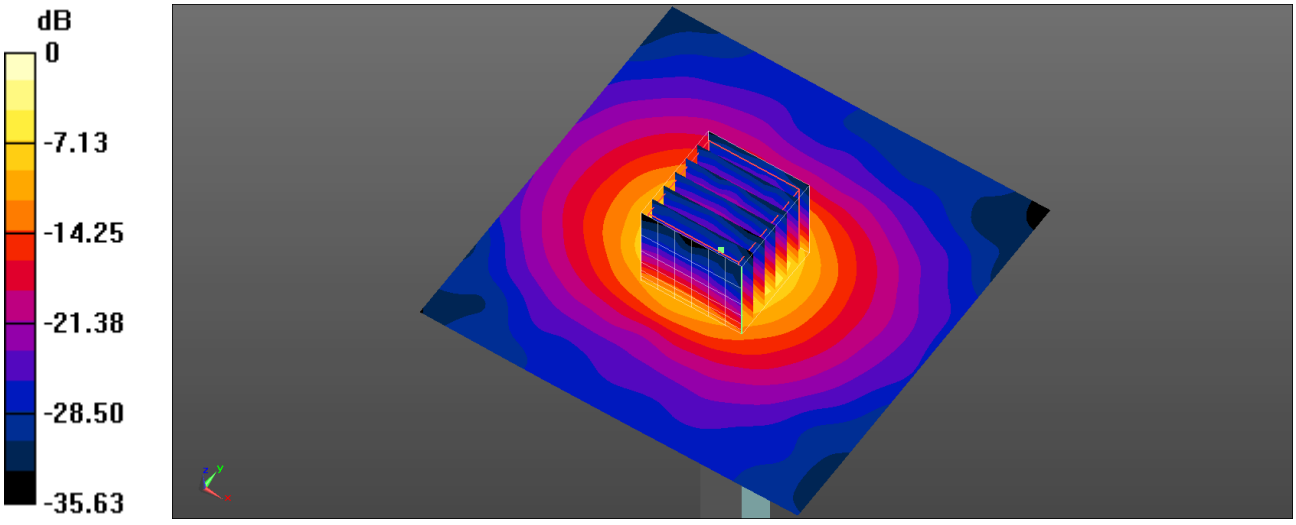
Communication System: UID 0, CW (0); Frequency: 5250 MHz;Duty Cycle: 1:1
Medium parameters used: f = 5250 MHz; σ = 4.701 S/m; ε_r = 36.502; ρ = 1000 kg/m^3
Phantom section: Flat Section
Measurement Standard: DASY5 (IEEE/IEC/ANSI C63.19-2007)

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(5.74, 5.74, 5.74) @ 5250 MHz; Calibrated: 2022/4/27
- Sensor-Surface: 1.4mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn1253; Calibrated: 2021/12/30
- Phantom: ELI; Type: QD OVA 002 AA; Serial: 1133
- 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) = 9.81 W/kg

System Performance Check at 5250MHz/Zoom Scan (7x7x7)/Cube 0: Measurement grid: dx=4mm, dy=4mm, dz=1.4mm
Reference Value = 46.71 V/m; Power Drift = 0.10 dB
Peak SAR (extrapolated) = 16.6 W/kg
SAR(1 g) = 3.99 W/kg; SAR(10 g) = 1.16 W/kg
Smallest distance from peaks to all points 3 dB below = 7.5 mm
Ratio of SAR at M2 to SAR at M1 = 63.1%
Maximum value of SAR (measured) = 9.59 W/kg



0 dB = 9.59 W/kg = 9.82 dBW/kg

Date: 2022/11/15

System Performance Check at 5600 MHz

DUT: D5GHzV2_SN1021

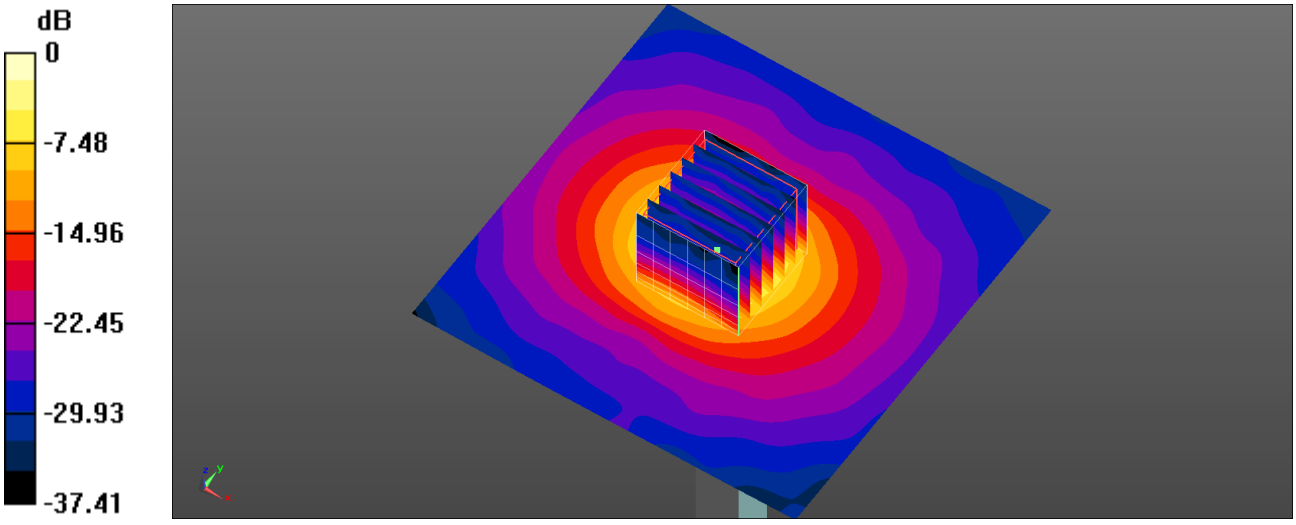
Communication System: UID 0, CW (0); Frequency: 5600 MHz;Duty Cycle: 1:1
Medium parameters used: f = 5600 MHz; σ = 5.061 S/m; ε_r = 35.837; ρ = 1000 kg/m^3
Phantom section: Flat Section
Measurement Standard: DASY5 (IEEE/IEC/ANSI C63.19-2007)

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(5.19, 5.19, 5.19) @ 5600 MHz; Calibrated: 2022/4/27
- Sensor-Surface: 1.4mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn1253; Calibrated: 2021/12/30
- Phantom: ELI; Type: QD OVA 002 AA; Serial: 1133
- 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) = 11.2 W/kg

System Performance Check at 5600MHz/Zoom Scan (7x7x7)/Cube 0: Measurement grid: dx=4mm, dy=4mm, dz=1.4mm
Reference Value = 48.17 V/m; Power Drift = 0.17 dB
Peak SAR (extrapolated) = 20.2 W/kg
SAR(1 g) = 4.37 W/kg; SAR(10 g) = 1.25 W/kg
Smallest distance from peaks to all points 3 dB below = 7.5 mm
Ratio of SAR at M2 to SAR at M1 = 59.9%
Maximum value of SAR (measured) = 10.9 W/kg



0 dB = 10.9 W/kg = 10.37 dBW/kg

Date: 2022/11/16

System Performance Check at 5750 MHz

DUT: D5GHzV2_SN1021

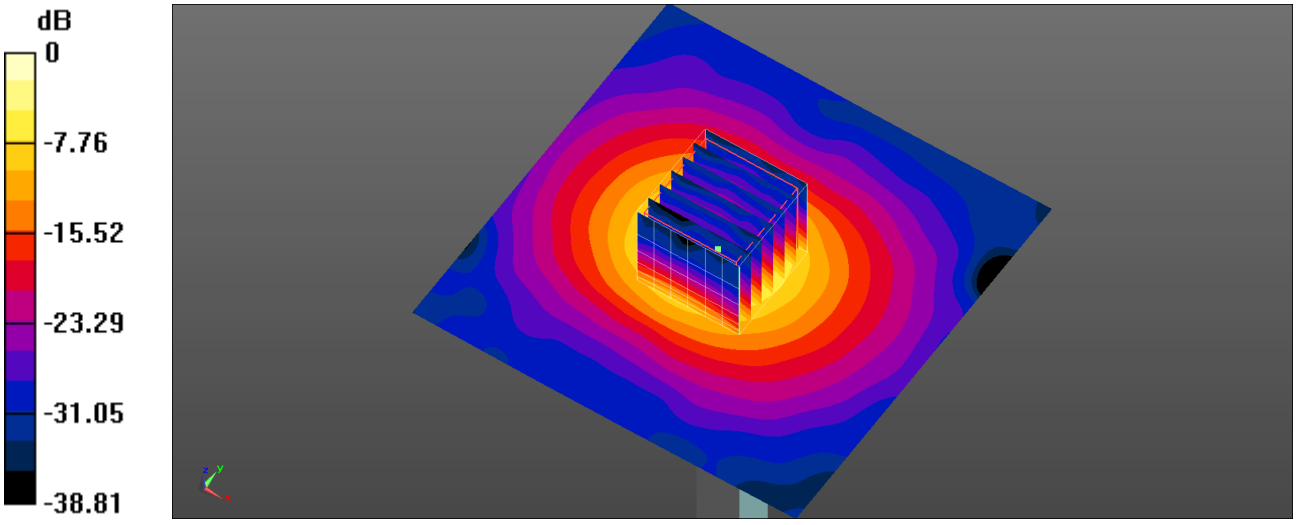
Communication System: UID 0, CW (0); Frequency: 5750 MHz;Duty Cycle: 1:1
Medium parameters used: f = 5750 MHz; σ = 5.277 S/m; ε_r = 35.16; ρ = 1000 kg/m^3
Phantom section: Flat Section
Measurement Standard: DASY5 (IEEE/IEC/ANSI C63.19-2007)

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(5.25, 5.25, 5.25) @ 5750 MHz; Calibrated: 2022/4/27
- Sensor-Surface: 1.4mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn1253; Calibrated: 2021/12/30
- Phantom: ELI; Type: QD OVA 002 AA; Serial: 1133
- Measurement SW: DASY52, Version 52.10 (4); SEMCAD X Version 14.6.14 (7501)

System Performance Check at 5750MHz/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 5750MHz/Zoom Scan (7x7x7)/Cube 0: Measurement grid: dx=4mm, dy=4mm, dz=1.4mm
Reference Value = 45.26 V/m; Power Drift = 0.11 dB
Peak SAR (extrapolated) = 19.2 W/kg
SAR(1 g) = 3.98 W/kg; SAR(10 g) = 1.15 W/kg
Smallest distance from peaks to all points 3 dB below = 7.4 mm
Ratio of SAR at M2 to SAR at M1 = 58.7%
Maximum value of SAR (measured) = 10.2 W/kg



0 dB = 10.2 W/kg = 10.09 dBW/kg

Date: 2022/11/16

System Performance Check at 5800 MHz

DUT: D5GHzV2_SN1040

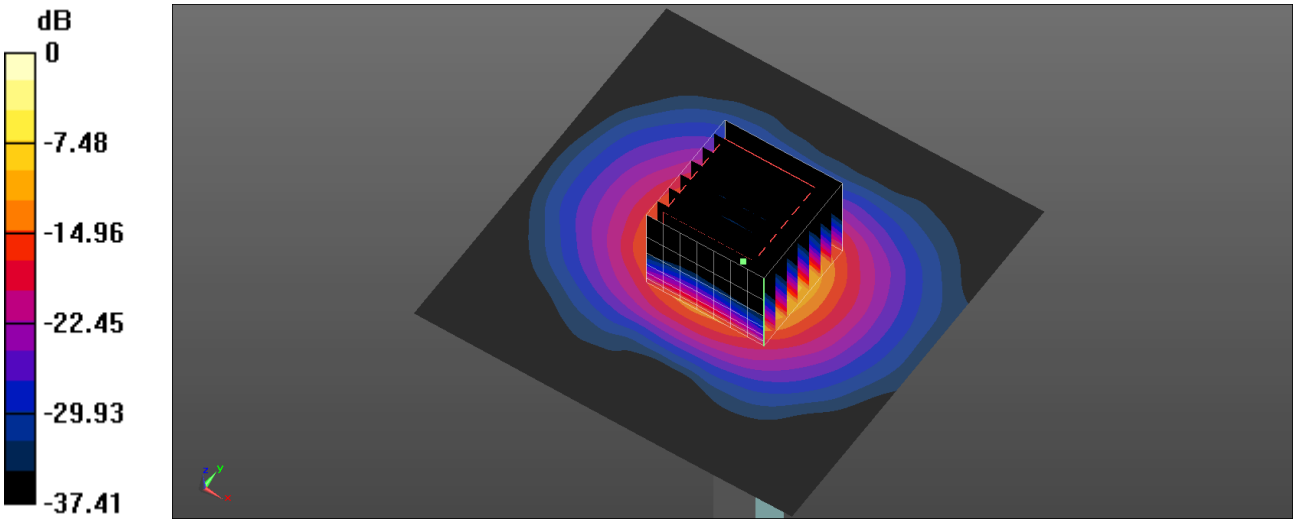
Communication System: UID 0, CW (0); Frequency: 5800 MHz;Duty Cycle: 1:1
Medium parameters used: f = 5800 MHz; σ = 5.333 S/m; ε_r = 35.116; ρ = 1000 kg/m^3
Phantom section: Flat Section
Measurement Standard: DASY5 (IEEE/IEC/ANSI C63.19-2007)

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 - SN7756; ConvF(4.6, 4.6, 4.6) @ 5800 MHz; Calibrated: 2022/8/26
- Sensor-Surface: 1.4mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn1253; Calibrated: 2021/12/30
- Phantom: ELI; Type: QD OVA 002 AA; Serial: 1133
- 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) = 9.72 W/kg

System Performance Check at 5800MHz/Zoom Scan (8x8x7)/Cube 0: Measurement grid: dx=4mm, dy=4mm, dz=1.4mm
Reference Value = 47.64 V/m; Power Drift = -0.18 dB
Peak SAR (extrapolated) = 19.6 W/kg
SAR(1 g) = 3.91 W/kg; SAR(10 g) = 1.11 W/kg
Smallest distance from peaks to all points 3 dB below = 9.2 mm
Ratio of SAR at M2 to SAR at M1 = 68.9%
Maximum value of SAR (measured) = 10.3 W/kg



0 dB = 10.3 W/kg = 10.13 dBW/kg

System Performance Check Report

Summary

Dipole	Frequency [MHz]
D6.5GHzV2 - SN1016	6500.0

Exposure Conditions

Phantom Section, TSL	Test Distance [mm]	Band	Group, UID	Frequency [MHz], Channel Number	Conversion Factor	TSL Conductivity [S/m]	TSL Permittivity
Flat,	0		, 0--	6500.0, 0	5.5	6.09	35.4

Hardware Setup

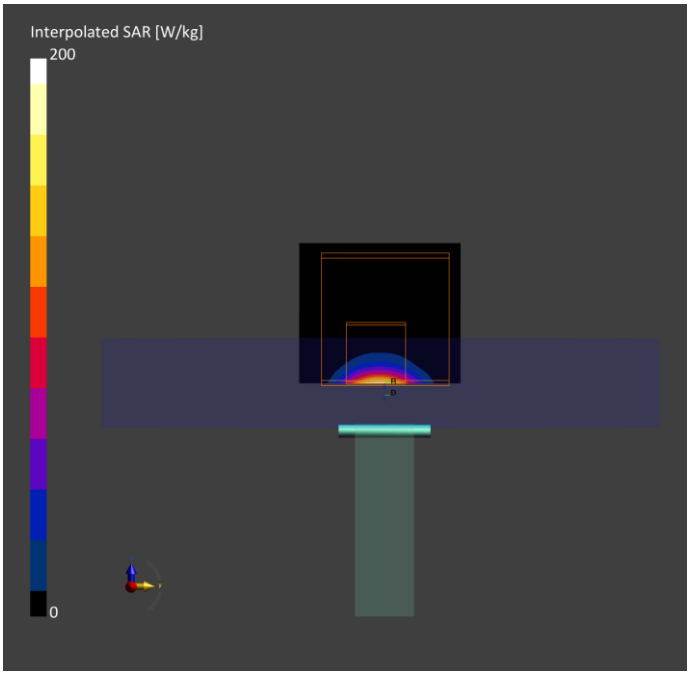
Phantom	TSL, Measured Date	Probe, Calibration Date	DAE, Calibration Date
ELI V5.0 (20deg probe tilt) - 1175	HSL6G	EX3DV4 - SN3847, 2022-03-24	DAE4 Sn541, 2022-03-23

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

Measurement Results

	Area Scan	Zoom Scan
Date	2022-11-18	2022-11-18
psSAR1g [W/Kg]	24.7	28.4
psSAR10g [W/Kg]	4.75	5.22
psPDab (1.0cm2, sq) [W/m2]		284
psPDab (4.0cm2, sq) [W/m2]		128
Power Drift [dB]	0.06	0.15
TSL Correction	Positive only	Positive only
M2/M1 [%]		48.6
Dist 3dB Peak [mm]		4.9



System Performance Check Report

Device under Test Properties

Model, Manufacturer	Dimensions [mm]	IMEI	DUT Type
5G Verification Source 10 GHz	100.0 x 100.0 x 100.0	SN: 2003	-

Exposure Conditions

Phantom Section	Position, Test Distance [mm]	Band	Group, UID	Frequency [MHz], Channel Number	Conversion Factor
5G Air	10.00	Validation band	CW,	10000.0, 10000	1.0

Hardware Setup

Phantom	Medium	Probe, Calibration Date	DAE, Calibration Date
mmWave- 5G Phantom	Air	EUmmWV4 - SN9639_F1-55GHz, 2022-08-24	DAE4 Sn541, 2022-03-23

Scan Setup

	5G Scan
Grid Extents [mm]	120.0 x 120.0
Grid Steps [lambda]	0.25 x 0.25
Sensor Surface [mm]	10.0
MAIA	N/A

Measurement Results

	5G Scan
Date	2022-11-19
Avg. Area [cm^2]	4.00
psPDn+ [W/m^2]	152
psPDtot+ [W/m^2]	155
psPDmod+ [W/m^2]	159
E_{max} [V/m]	279
H_{max} [A/m]	0.772
Power Drift [dB]	0.13