Appendix B – System Check Plots

Date: 2024/5/2

System Performance Check at 2450 MHz

DUT: D2450V2_SN712

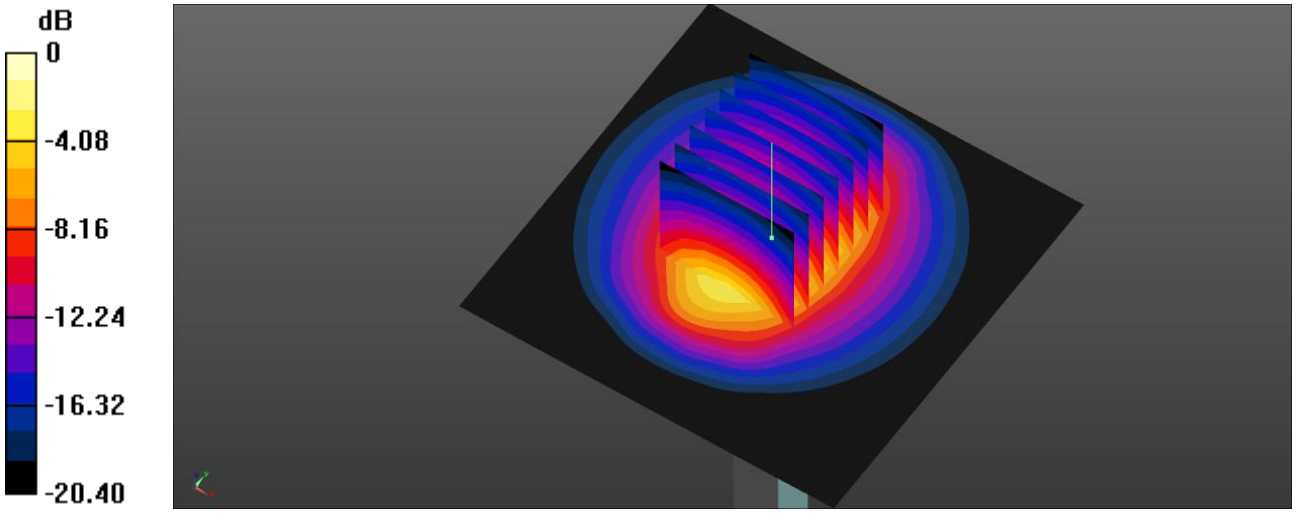
Communication System: UID 0, CW (0); Frequency: 2450 MHz;Duty Cycle: 1:1
Medium parameters used: f = 2450 MHz; σ = 1.823 S/m; ε_r = 40.502; ρ = 1000 kg/m^3
Phantom section: Flat Section
Measurement Standard: DASY5

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 - SN3977; ConvF(7.73, 7.11, 7.58) @ 2450 MHz; Calibrated: 2024/3/21
- Sensor-Surface: 1.4mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn779; Calibrated: 2024/3/14
- 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 (71x71x1): Interpolated grid: dx=1.200 mm, dy=1.200 mm
Maximum value of SAR (interpolated) = 3.89 W/kg

System Performance Check at 2450MHz/Zoom Scan (7x7x7)/Cube 0: Measurement grid: dx=5mm, dy=5mm, dz=5mm
Reference Value = 47.22 V/m; Power Drift = 0.13 dB
Peak SAR (extrapolated) = 4.85 W/kg
SAR(1 g) = 2.41 W/kg; SAR(10 g) = 1.16 W/kg
Smallest distance from peaks to all points 3 dB below = 9 mm
Ratio of SAR at M2 to SAR at M1 = 50.4%
Maximum value of SAR (measured) = 3.95 W/kg



0 dB = 3.95 W/kg = 5.97 dBW/kg

Date: 2024/5/22

System Performance Check at 2450 MHz

DUT: D2450V2_SN712

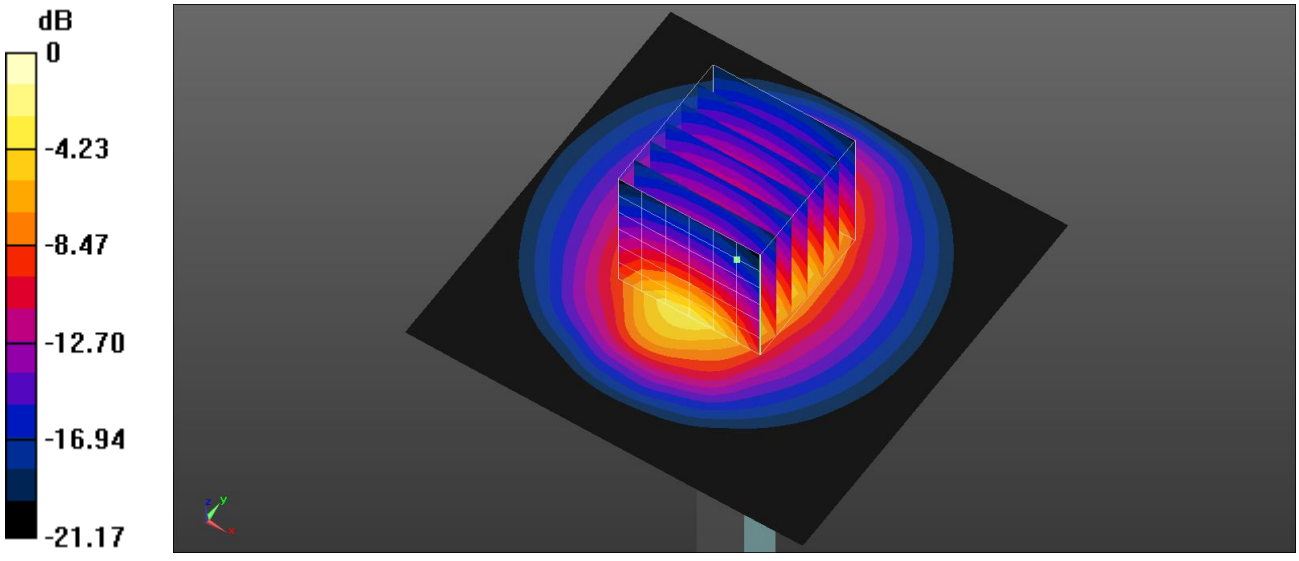
Communication System: UID 0, CW (0); Frequency: 2450 MHz;Duty Cycle: 1:1
Medium parameters used: f = 2450 MHz; σ = 1.859 S/m; ε_r = 40.934; ρ = 1000 kg/m^3
Phantom section: Flat Section
Measurement Standard: DASY5

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 - SN3977; ConvF(7.73, 7.11, 7.58) @ 2450 MHz; Calibrated: 2024/3/21
- Sensor-Surface: 1.4mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn541; Calibrated: 2024/3/11
- 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 (71x71x1): Interpolated grid: dx=1.200 mm, dy=1.200 mm
Maximum value of SAR (interpolated) = 3.96 W/kg

System Performance Check at 2450MHz/Zoom Scan (7x7x7)/Cube 0: Measurement grid: dx=5mm, dy=5mm, dz=5mm
Reference Value = 47.22 V/m; Power Drift = 0.06 dB
Peak SAR (extrapolated) = 4.97 W/kg
SAR(1 g) = 2.45 W/kg; SAR(10 g) = 1.17 W/kg
Smallest distance from peaks to all points 3 dB below = 8.8 mm
Ratio of SAR at M2 to SAR at M1 = 48.7%
Maximum value of SAR (measured) = 4.03 W/kg



0 dB = 4.03 W/kg = 6.05 dBW/kg

Date: 2024/5/2

System Performance Check at 5250 MHz

DUT: D5GHzV2_SN1358

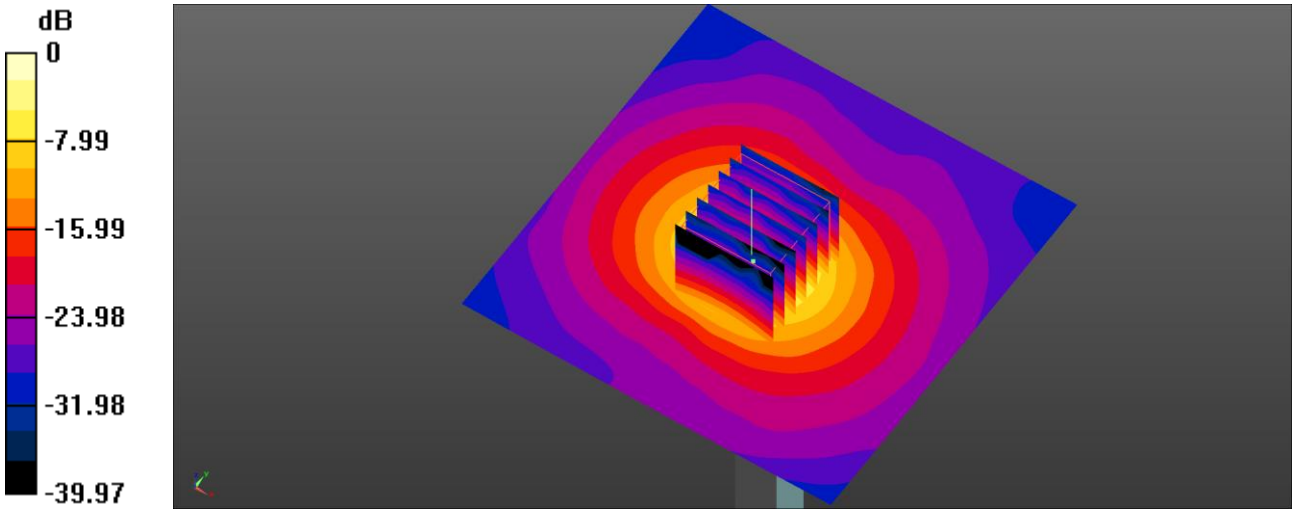
Communication System: UID 0, CW (0); Frequency: 5250 MHz;Duty Cycle: 1:1
Medium parameters used: f = 5250 MHz; σ = 4.32 S/m; ε_r = 35.769; ρ = 1000 kg/m^3
Phantom section: Flat Section
Measurement Standard: DASY5

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 - SN3977; ConvF(5.68, 5.15, 5.5) @ 5250 MHz; Calibrated: 2024/3/21
- Sensor-Surface: 1.4mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn779; Calibrated: 2024/3/14
- 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) = 8.83 W/kg

System Performance Check at 5250MHz/Zoom Scan (7x7x7)/Cube 0: Measurement grid: dx=4mm, dy=4mm, dz=1.4mm
Reference Value = 48.52 V/m; Power Drift = -0.04 dB
Peak SAR (extrapolated) = 15.8 W/kg
SAR(1 g) = 3.77 W/kg; SAR(10 g) = 1.05 W/kg
Smallest distance from peaks to all points 3 dB below = 7.4 mm
Ratio of SAR at M2 to SAR at M1 = 63.6%
Maximum value of SAR (measured) = 9.13 W/kg



0 dB = 9.13 W/kg = 9.60 dBW/kg

Date: 2024/5/22

System Performance Check at 5250 MHz

DUT: D5GHzV2_SN1358

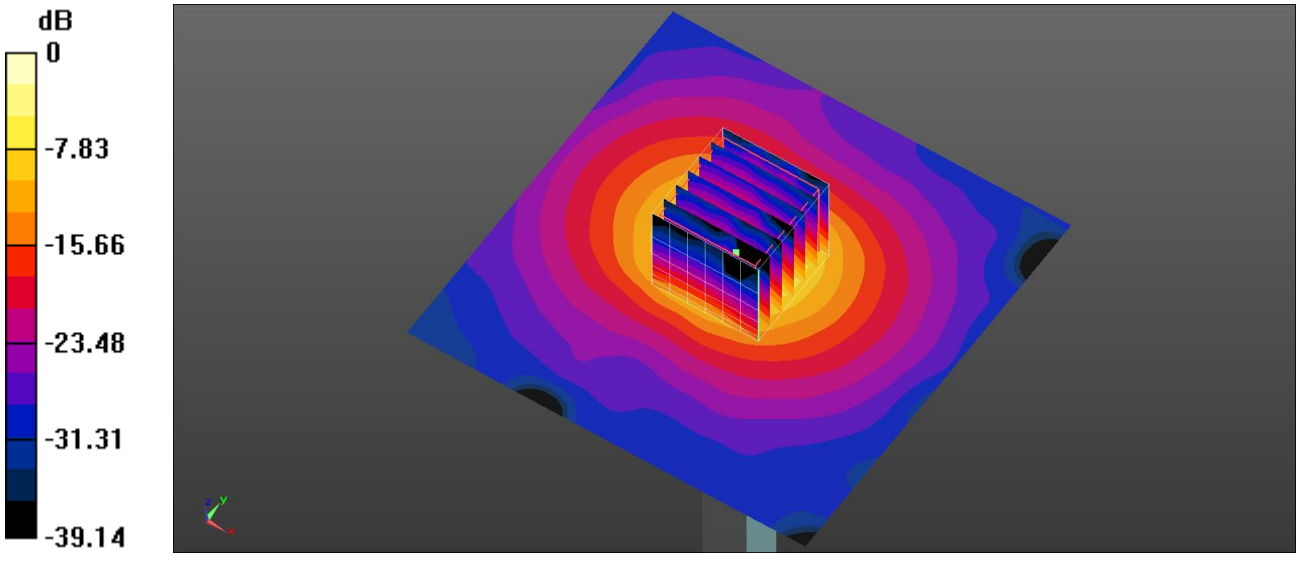
Communication System: UID 0, CW (0); Frequency: 5250 MHz;Duty Cycle: 1:1
Medium parameters used: f = 5250 MHz; σ = 4.4 S/m; ε_r = 36.232; ρ = 1000 kg/m^3
Phantom section: Flat Section
Measurement Standard: DASY5

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 - SN3977; ConvF(5.68, 5.15, 5.5) @ 5250 MHz; Calibrated: 2024/3/21
- Sensor-Surface: 1.4mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn541; Calibrated: 2024/3/11
- 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) = 9.98 W/kg

System Performance Check at 5250MHz/Zoom Scan (7x7x7)/Cube 0: Measurement grid: dx=4mm, dy=4mm, dz=1.4mm
Reference Value = 40.49 V/m; Power Drift = 0.13 dB
Peak SAR (extrapolated) = 16.6 W/kg
SAR(1 g) = 3.99 W/kg; SAR(10 g) = 1.09 W/kg
Smallest distance from peaks to all points 3 dB below = 7.6 mm
Ratio of SAR at M2 to SAR at M1 = 61.6%
Maximum value of SAR (measured) = 9.83 W/kg



0 dB = 9.83 W/kg = 9.93 dBW/kg

Date: 2024/5/2

System Performance Check at 5600 MHz

DUT: D5GHzV2_SN1358

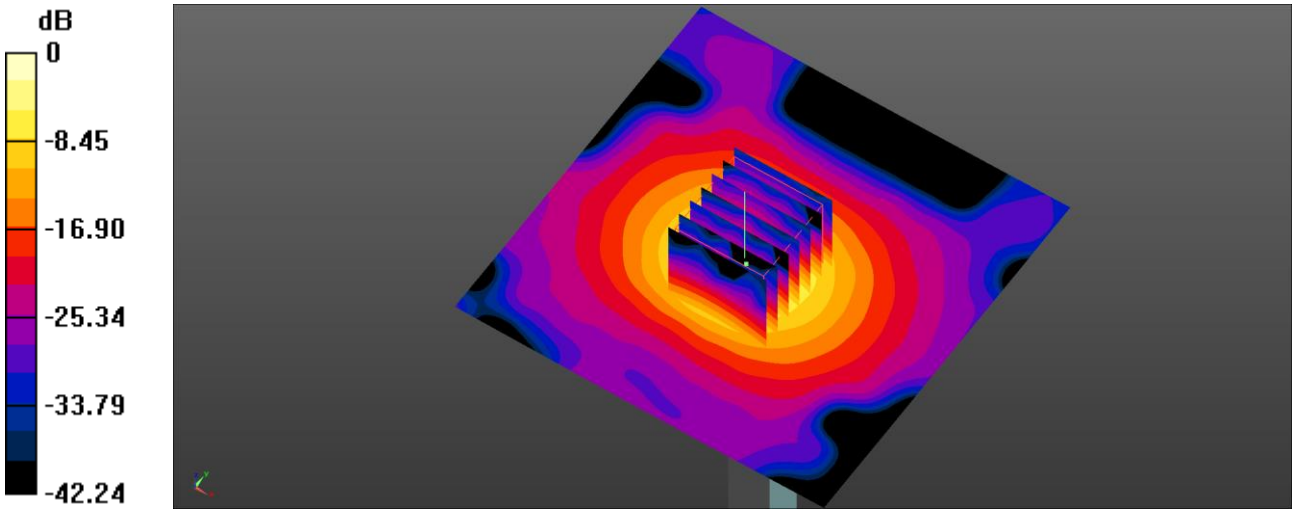
Communication System: UID 0, CW (0); Frequency: 5600 MHz;Duty Cycle: 1:1
Medium parameters used: f = 5600 MHz; σ = 4.637 S/m; ε_r = 35.412; ρ = 1000 kg/m^3
Phantom section: Flat Section
Measurement Standard: DASY5

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 - SN3977; ConvF(4.9, 4.47, 4.74) @ 5600 MHz; Calibrated: 2024/3/21
- Sensor-Surface: 1.4mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn779; Calibrated: 2024/3/14
- 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) = 9.76 W/kg

System Performance Check at 5600MHz/Zoom Scan (7x7x7)/Cube 0: Measurement grid: dx=4mm, dy=4mm, dz=1.4mm
Reference Value = 49.74 V/m; Power Drift = -0.11 dB
Peak SAR (extrapolated) = 17.7 W/kg
SAR(1 g) = 4.07 W/kg; SAR(10 g) = 1.13 W/kg
Smallest distance from peaks to all points 3 dB below = 7.4 mm
Ratio of SAR at M2 to SAR at M1 = 62.3%
Maximum value of SAR (measured) = 10.3 W/kg



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

Date: 2024/5/22

System Performance Check at 5600 MHz

DUT: D5GHzV2_SN1358

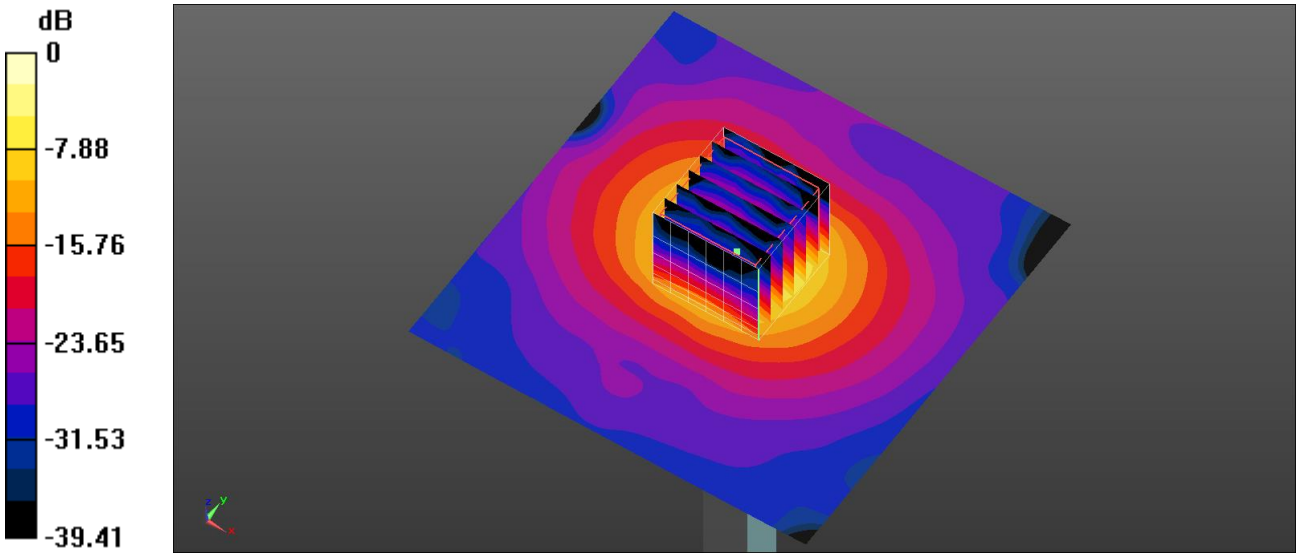
Communication System: UID 0, CW (0); Frequency: 5600 MHz;Duty Cycle: 1:1
Medium parameters used: f = 5600 MHz; σ = 4.723 S/m; ε_r = 35.876; ρ = 1000 kg/m^3
Phantom section: Flat Section
Measurement Standard: DASY5

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 - SN3977; ConvF(4.9, 4.47, 4.74) @ 5600 MHz; Calibrated: 2024/3/21
- Sensor-Surface: 1.4mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn541; Calibrated: 2024/3/11
- 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) = 10.0 W/kg

System Performance Check at 5600MHz/Zoom Scan (7x7x7)/Cube 0: Measurement grid: dx=4mm, dy=4mm, dz=1.4mm
Reference Value = 41.46 V/m; Power Drift = 0.11 dB
Peak SAR (extrapolated) = 17.3 W/kg
SAR(1 g) = 3.95 W/kg; SAR(10 g) = 1.09 W/kg
Smallest distance from peaks to all points 3 dB below = 7.4 mm
Ratio of SAR at M2 to SAR at M1 = 60.3%
Maximum value of SAR (measured) = 9.57 W/kg



0 dB = 9.57 W/kg = 9.81 dBW/kg

Date: 2024/5/25

System Performance Check at 5600 MHz

DUT: D5GHzV2_SN1358

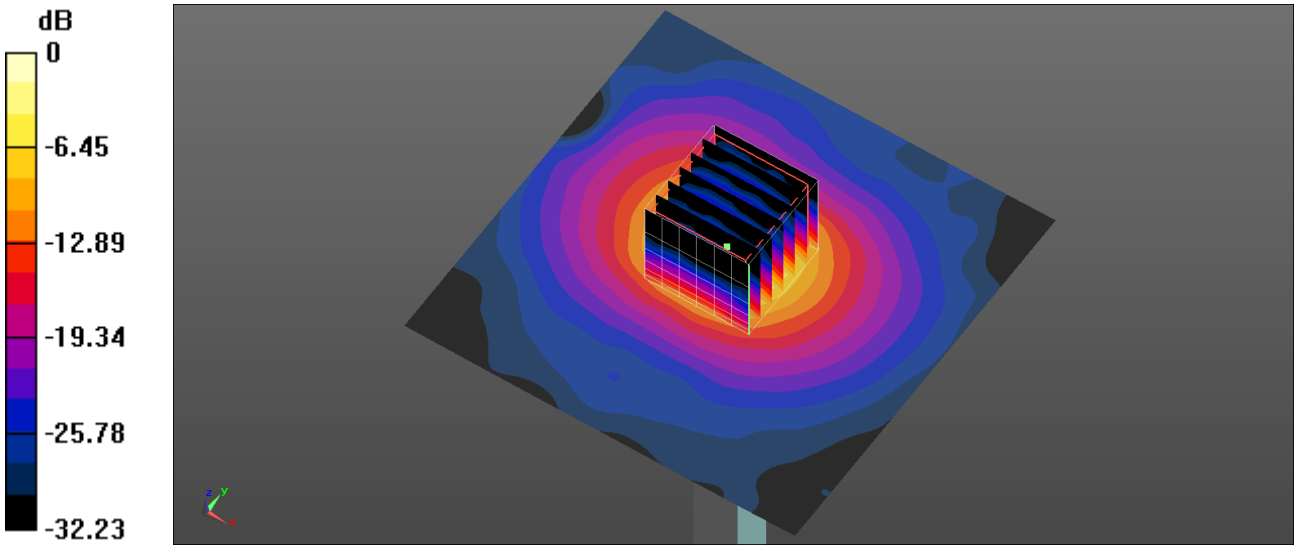
Communication System: UID 0, CW (0); Frequency: 5600 MHz;Duty Cycle: 1:1
Medium parameters used: f = 5600 MHz; σ = 4.732 S/m; ε_r = 35.896; ρ = 1000 kg/m^3
Phantom section: Flat Section
Measurement Standard: DASY5

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 - SN3977; ConvF(4.9, 4.47, 4.74) @ 5600 MHz; Calibrated: 2024/3/21
- Sensor-Surface: 1.4mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn541; Calibrated: 2024/3/11
- 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) = 10.04 W/kg

System Performance Check at 5600MHz/Zoom Scan (7x7x7)/Cube 0: Measurement grid: dx=4mm, dy=4mm, dz=1.4mm
Reference Value = 41.67 V/m; Power Drift = 0.04 dB
Peak SAR (extrapolated) = 17.48 W/kg
SAR(1 g) = 3.98 W/kg; SAR(10 g) = 1.08 W/kg
Smallest distance from peaks to all points 3 dB below = 7.3 mm
Ratio of SAR at M2 to SAR at M1 = 61.2%
Maximum value of SAR (measured) = 9.62 W/kg



0 dB = 9.62 W/kg = 9.83 dBW/kg

Date: 2024/5/2

System Performance Check at 5800 MHz

DUT: D5GHzV2_SN1358

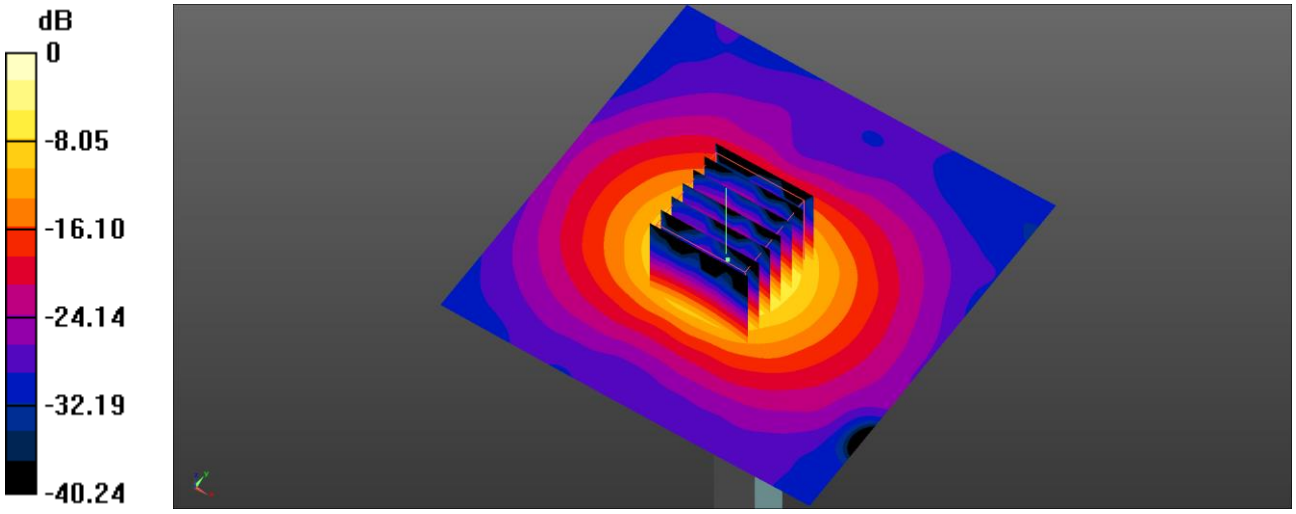
Communication System: UID 0, CW (0); Frequency: 5800 MHz;Duty Cycle: 1:1
Medium parameters used: f = 5800 MHz; σ = 4.849 S/m; ε_r = 35.044; ρ = 1000 kg/m^3
Phantom section: Flat Section
Measurement Standard: DASY5

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 - SN3977; ConvF(5.03, 4.62, 4.96) @ 5800 MHz; Calibrated: 2024/3/21
- Sensor-Surface: 1.4mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn779; Calibrated: 2024/3/14
- 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) = 8.62 W/kg

System Performance Check at 5800MHz/Zoom Scan (7x7x7)/Cube 0: Measurement grid: dx=4mm, dy=4mm, dz=1.4mm
Reference Value = 45.09 V/m; Power Drift = 0.00 dB
Peak SAR (extrapolated) = 16.1 W/kg
SAR(1 g) = 4.04 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 = 60.6%
Maximum value of SAR (measured) = 8.71 W/kg



0 dB = 8.71 W/kg = 9.40 dBW/kg

Date: 2024/5/22

System Performance Check at 5800 MHz

DUT: D5GHzV2_SN1358

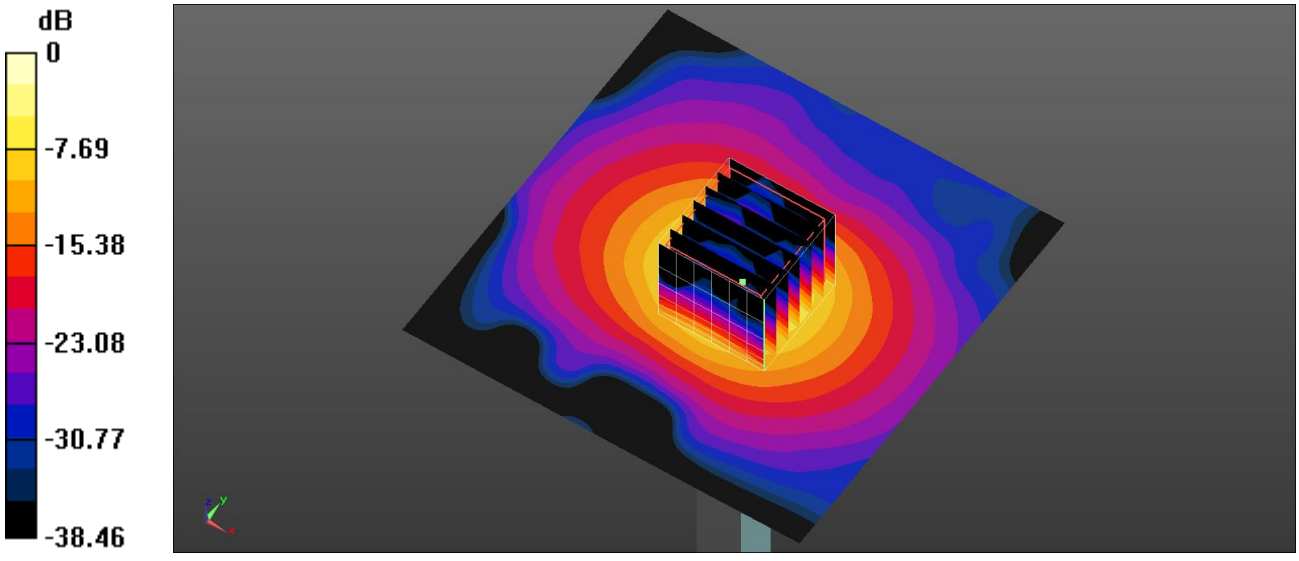
Communication System: UID 0, CW (0); Frequency: 5800 MHz;Duty Cycle: 1:1
Medium parameters used: f = 5800 MHz; σ = 4.937 S/m; ε_r = 35.508; ρ = 1000 kg/m^3
Phantom section: Flat Section
Measurement Standard: DASY5

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 - SN3977; ConvF(5.03, 4.62, 4.96) @ 5800 MHz; Calibrated: 2024/3/21
- Sensor-Surface: 1.4mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn541; Calibrated: 2024/3/11
- 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) = 9.57 W/kg

System Performance Check at 5800MHz/Zoom Scan (7x7x7)/Cube 0: Measurement grid: dx=4mm, dy=4mm, dz=1.4mm
Reference Value = 53.09 V/m; Power Drift = -0.17 dB
Peak SAR (extrapolated) = 18.5 W/kg
SAR(1 g) = 3.84 W/kg; SAR(10 g) = 1.08 W/kg
Smallest distance from peaks to all points 3 dB below = 7.8 mm
Ratio of SAR at M2 to SAR at M1 = 56.2%
Maximum value of SAR (measured) = 9.93 W/kg



0 dB = 9.93 W/kg = 9.97 dBW/kg

Test Date : 2024-05-23 | Ambient Temp : 23.3 °C | Tissue Temp : 22.2 °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	5.65	5.74	34.2

Hardware Setup

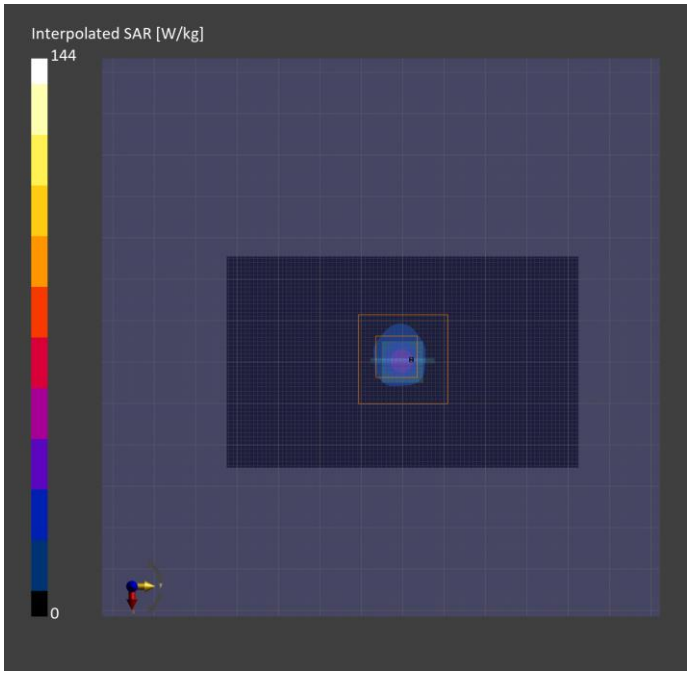
Phantom	Tissue Simulating Liquid	Probe | Calibration Date	DAE | Calibration Date
ELI V5.0 (20deg probe tilt) - 1175	HBBL-600-10000	EX3DV4 - SN3977 / 2024-03-21	DAE4 Sn541 / 2024-03-11

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]	23.8	**28.1**
psSAR-*8g* [W/kg]	5.69	**6.55**
psSAR-*10g* [W/kg]	4.77	**5.38**
psAPD (*1.0 cm²*, sq) [W/m²]		**283**
psAPD (*4.0 cm²*, sq) [W/m²]		**132**
Power Drift [dB]		0.01
TSL Correction	Positive only	Positive only



Test Date : 2024-05-24 | Ambient Temp : 23.0 °C | Tissue Temp : 22.0 °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	5.65	5.7	34.1

Hardware Setup

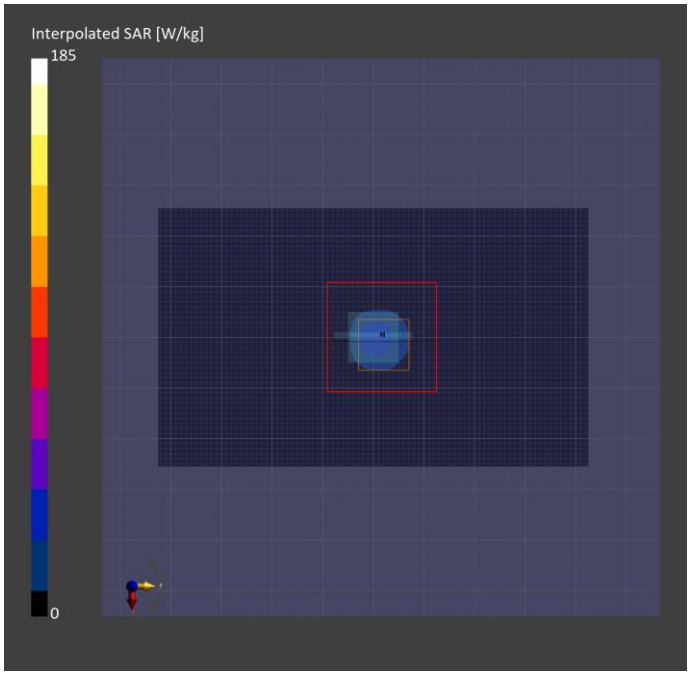
Phantom	Tissue Simulating Liquid	Probe | Calibration Date	DAE | Calibration Date
ELI V5.0 (20deg probe tilt) - 1175	HBBL-600-10000	EX3DV4 - SN3977 / 2024-03-21	DAE4 Sn779 / 2024-3-14

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]	23.5	**27.9**
psSAR-*8g* [W/kg]	5.84	**6.41**
psSAR-*10g* [W/kg]	4.89	**5.25**
psAPD (*1.0 cm²*, sq) [W/m²]		**279**
psAPD (*4.0 cm²*, sq) [W/m²]		**129**
Power Drift [dB]		0.11
TSL Correction	Positive only	Positive only



Test Date : 2024-05-25 Ambient Temp : 23.1 °C

System Performance Check

System Performance Check at 10 GHz

Verification Source Properties

Manufacturer	Model No.	Serial No.
SPEAG	10G Verification Source	2003

Exposure Conditions

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

Hardware Setup

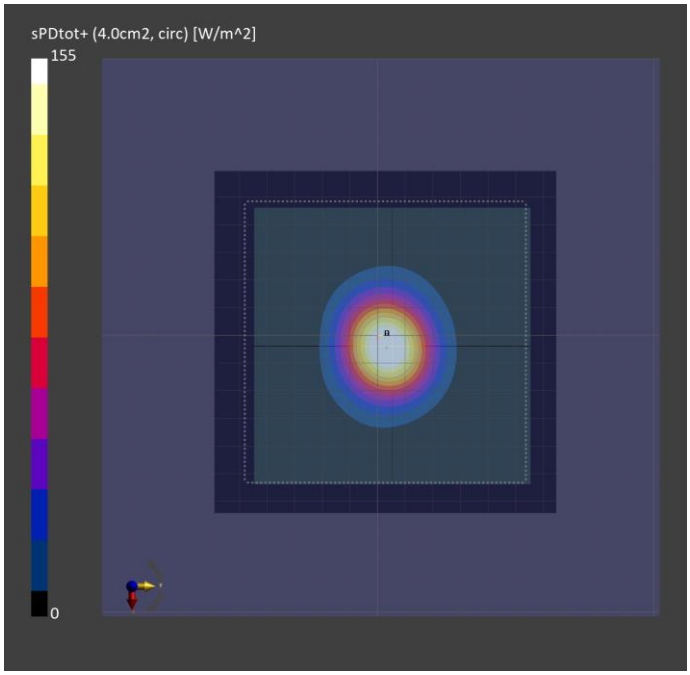
Phantom	Medium	Probe | Calibration Date	DAE | Calibration Date
mmWave - 5G Phantom	Air	EUmmWV4 - SN9639_F1-55GHz / 2023-08-18	DAE4 Sn541 / 2024-03-11

Scan Setup

	5G Scan
Grid Extents [mm]	120.0 x 120.0
Grid Steps [mm]	0.125 x 0.125
Sensor Surface [mm]	10.0

Measurement Results

	5G Scan
Avg. Area [cm²]	4.00
psPD n+ [W/m²]	**167**
psPD tot+ [W/m²]	**173**
psPD mod+ [W/m²]	179
E max [V/m]	281
Power Drift [dB]	0.11



Test Date : 2024-05-26 Ambient Temp : 23.2 °C

System Performance Check

System Performance Check at 10 GHz

Verification Source Properties

Manufacturer	Model No.	Serial No.
SPEAG	10G Verification Source	2003

Exposure Conditions

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

Hardware Setup

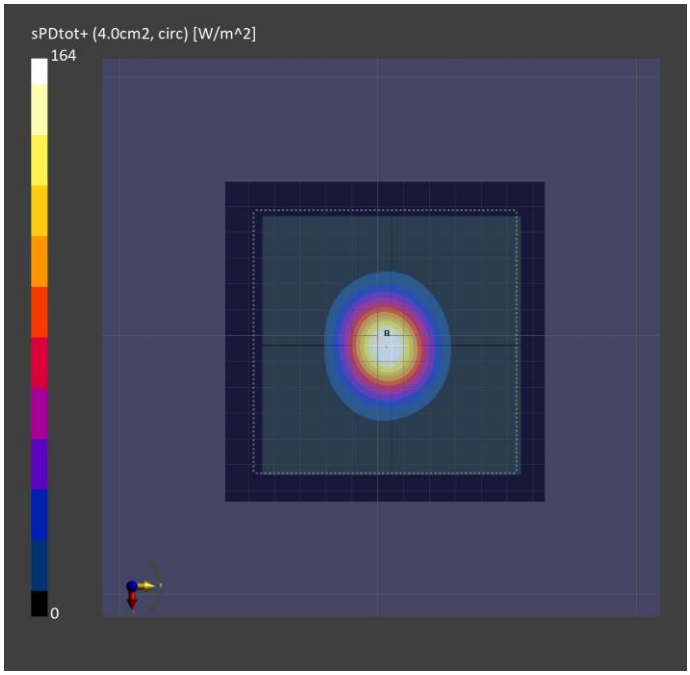
Phantom	Medium	Probe | Calibration Date	DAE | Calibration Date
mmWave - 5G Phantom	Air	EUmmWV4 - SN9639_F1-55GHz / 2023-08-18	DAE4 Sn541 / 2024-03-11

Scan Setup

	5G Scan
Grid Extents [mm]	120.0 x 120.0
Grid Steps [mm]	0.125 x 0.125
Sensor Surface [mm]	10.0

Measurement Results

	5G Scan
Avg. Area [cm²]	4.00
psPD n+ [W/m²]	**164**
psPD tot+ [W/m²]	**171**
psPD mod+ [W/m²]	177
E max [V/m]	278
Power Drift [dB]	0.01



Test Date : 2024-05-27 Ambient Temp : 22.9 °C

System Performance Check

System Performance Check at 10 GHz

Verification Source Properties

Manufacturer	Model No.	Serial No.
SPEAG	10G Verification Source	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 / 2024-03-11

Scan Setup

	5G Scan
Grid Extents [mm]	120.0 x 120.0
Grid Steps [mm]	0.125 x 0.125
Sensor Surface [mm]	10.0

Measurement Results

	5G Scan
Avg. Area [cm²]	4.00
psPD n+ [W/m²]	**169**
psPD tot+ [W/m²]	**176**
psPD mod+ [W/m²]	182
E max [V/m]	285
Power Drift [dB]	0.05