Appendix A. System Check Data

Test Laboratory: DEKRA Date: 2024/10/07

System Performance Check_2450MHz-Head

DUT: Dipole 2450 MHz; Type: D2450V2

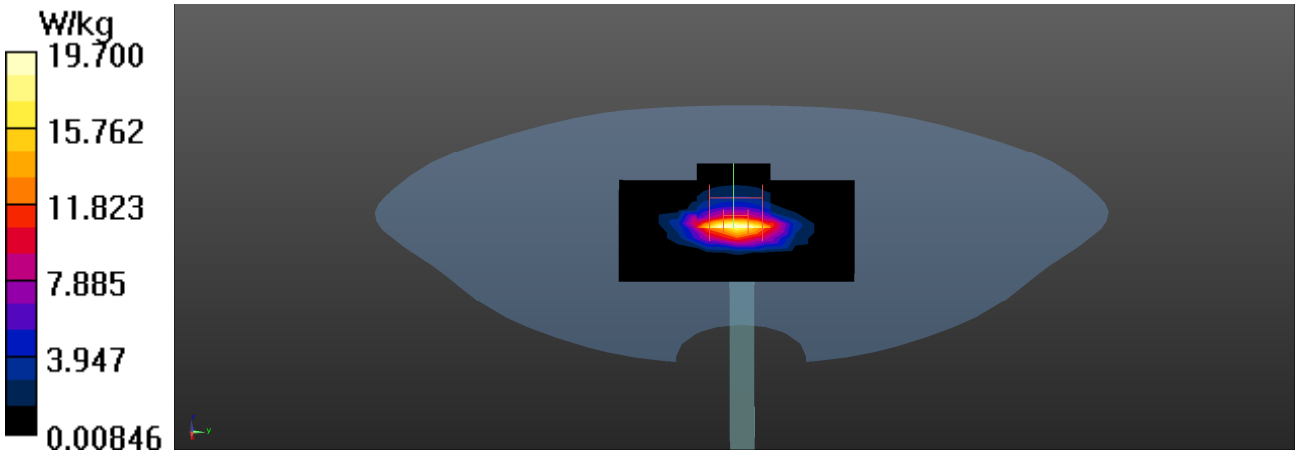
Communication System: UID 0, CW; Frequency: 2450 MHz
Communication System PAR: 0 dB
Medium parameters used: f = 2450 MHz; σ = 1.76 S/m; ε_r = 39.19; ρ = 1000 kg/m^3
Phantom section: Flat Section
Measurement Standard: DASY5 (IEEE/IEC/ANSI C63.19-2011)

DASY Configuration:

- Probe: EX3DV4 - SN3698; ConvF(7.15, 7.15, 7.15) @ 2450 MHz; Calibrated: 2023/11/21
- Sensor-Surface: 1.4mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn1207; Calibrated: 2023/11/22
- Phantom: SAM with left table; Type: SAM; Serial:
- Measurement SW: DASY52, Version 52.10 (4);

Configuration/2450MHz-Head/Area Scan (8x9x1): Measurement grid: dx=12mm, dy=12mm
Maximum value of SAR (measured) = 19.7 W/kg

Configuration/2450MHz-Head/Zoom Scan (7x7x7)/Cube 0: Measurement grid: dx=5mm, dy=5mm, dz=5mm
Reference Value = 114.6 V/m; Power Drift = 0.15 dB
Peak SAR (extrapolated) = 25.9 W/kg
SAR(1 g) = 13.1 W/kg; SAR(10 g) = 5.97 W/kg
Smallest distance from peaks to all points 3 dB below = 9 mm
Ratio of SAR at M2 to SAR at M1 = 47.1%
Maximum value of SAR (measured) = 22.3 W/kg



Test Laboratory: DEKRA Date: 2024-10-23

System Performance Check_2450MHz-Head

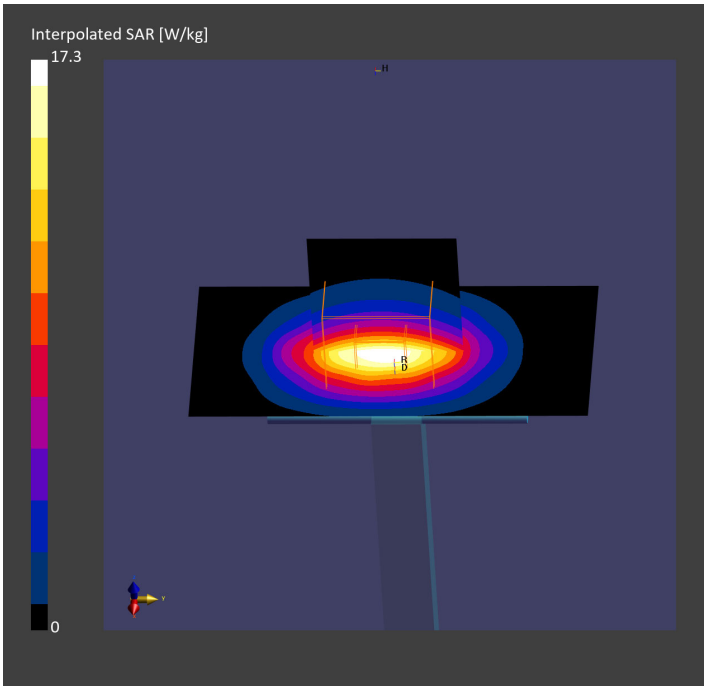
Communication System: UID 0--, CW; Frequency: 2450.000 MHz
Medium parameters used: f = 2450.000 MHz; Conductivity = 1.79 S/m; Permittivity = 39.5
Phantom section: Flat

DASY Configuration:

- Probe: EX3DV4 - SN7784; ConvF(6.73, 6.93, 6.69); Calibrated: 2024-04-22
- Sensor-Surface: 1.4 mm
- Electronics: DAE4 Sn1791; Calibrated: 2024-04-22
- Phantom: ELI V8.0 (20deg probe tilt)
- Measurement SW: V16.2.4.2524

Area Scan (40.0 mm x 80.0 mm): Measurement grid: 10.0 mm x 10.0 mm
SAR (1 g) = 13.2 W/kg; SAR (10 g) = 6.12 W/kg

Zoom Scan (30.0 mm x 30.0 mm x 30.0 mm): Measurement grid: 5.0 mm x 5.0 mm x 1.5 mm
Power Drift = 0.01 dB
SAR(1 g) = 13.2 W/kg; SAR(10 g) = 6.23 W/kg
Smallest distance from peaks to all points 3 dB below = 9.0
Ratio of SAR at M2 to SAR at M1 = 81.1



Test Laboratory: DEKRA Date: 2024/10/10

System Performance Check_5250MHz-Head

DUT: Dipole 5GHz; Type: D5GHzV2

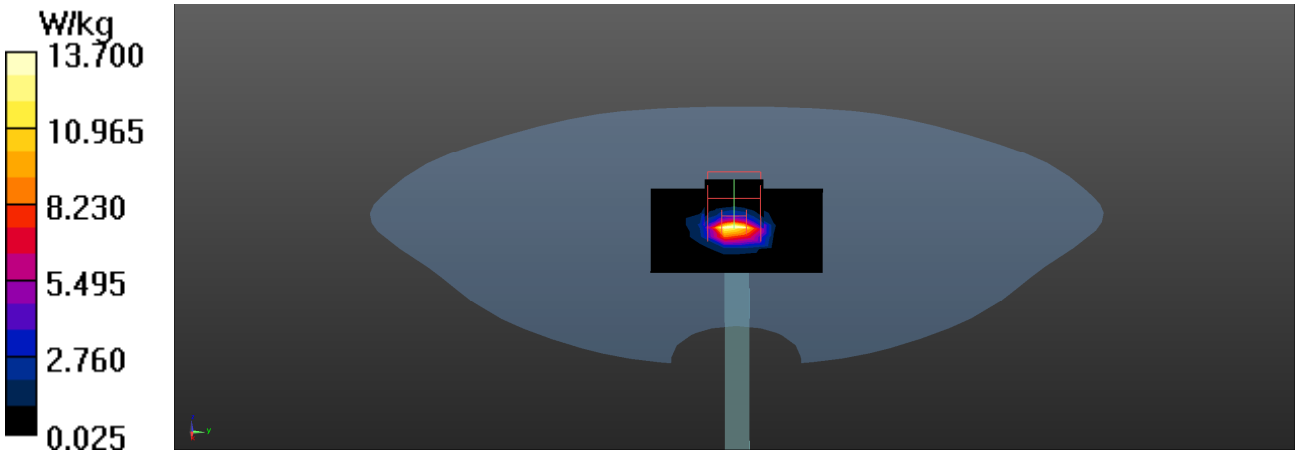
Communication System: UID 0, CW; Frequency: 5250 MHz
Communication System PAR: 0 dB
Medium parameters used: f = 5250 MHz; σ = 4.71 S/m; ε_r = 36.7; ρ = 1000 kg/m^3
Phantom section: Flat Section
Measurement Standard: DASY5 (IEEE/IEC/ANSI C63.19-2011)

DASY Configuration:

- Probe: EX3DV4 - SN3698; ConvF(4.71, 4.71, 4.71) @ 5250 MHz; Calibrated: 2023/11/21
- Sensor-Surface: 1.4mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn1207; Calibrated: 2023/11/22
- Phantom: SAM with right table; Type: SAM;
- Measurement SW: DASY52, Version 52.10 (4);

Configuration/5250MHz-Head/Area Scan (8x8x1): Measurement grid: dx=10mm, dy=10mm
Maximum value of SAR (measured) = 13.7 W/kg

Configuration/5250MHz-Head/Zoom Scan (7x7x7)/Cube 0: Measurement grid: dx=4mm, dy=4mm, dz=1.4mm
Reference Value = 68.38 V/m; Power Drift = 0.13 dB
Peak SAR (extrapolated) = 25.4 W/kg
SAR(1 g) = 7.66 W/kg; SAR(10 g) = 2.2 W/kg
Smallest distance from peaks to all points 3 dB below = 7.4 mm
Ratio of SAR at M2 to SAR at M1 = 66%
Maximum value of SAR (measured) = 18.9 W/kg



Test Laboratory: DEKRA Date: 2024-10-25

System Performance Check_5250MHz-Head

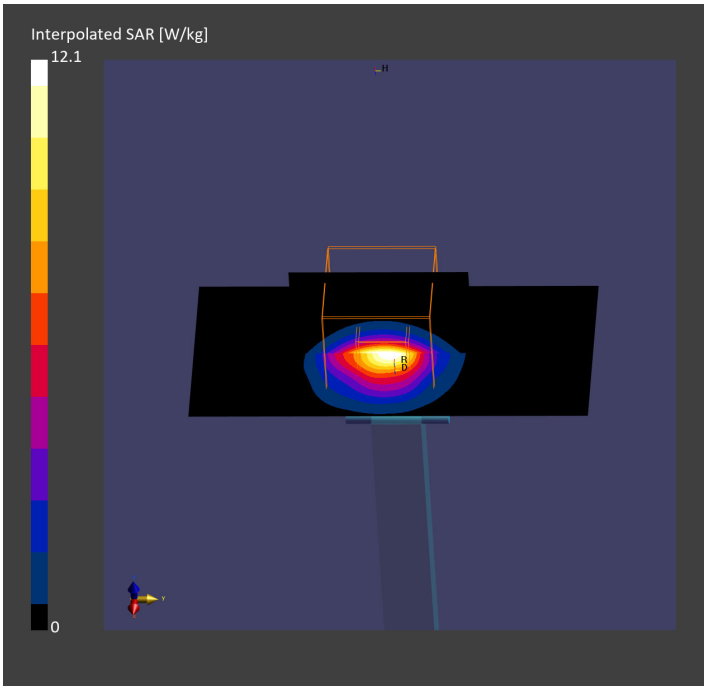
Communication System: UID 0--, CW; Frequency: 5250.000 MHz
Medium parameters used: f = 5250.000 MHz; Conductivity = 4.71 S/m; Permittivity = 36.7
Phantom section: Flat

DASY Configuration:

- Probe: EX3DV4 - SN7784; ConvF(5.09, 5.24, 5.17); Calibrated: 2024-04-22
- Sensor-Surface: 1.4 mm
- Electronics: DAE4 Sn1791; Calibrated: 2024-04-22
- Phantom: ELI V8.0 (20deg probe tilt)
- Measurement SW: V16.2.4.2524

Area Scan (40.0 mm x 80.0 mm): Measurement grid: 10.0 mm x 10.0 mm
SAR (1 g) = 7.56 W/kg; SAR (10 g) = 2.20 W/kg

Zoom Scan (22.0 mm x 22.0 mm x 22.0 mm): Measurement grid: 4.0 mm x 4.0 mm x 1.4 mm
Power Drift = -0.05 dB
SAR(1 g) = 8.15 W/kg; SAR(10 g) = 2.39 W/kg
Smallest distance from peaks to all points 3 dB below = 7.4
Ratio of SAR at M2 to SAR at M1 = 66.0



Test Laboratory: DEKRA Date: 2024/10/10

System Performance Check_5600MHz-Head

DUT: Dipole 5GHz; Type: D5GHzV2

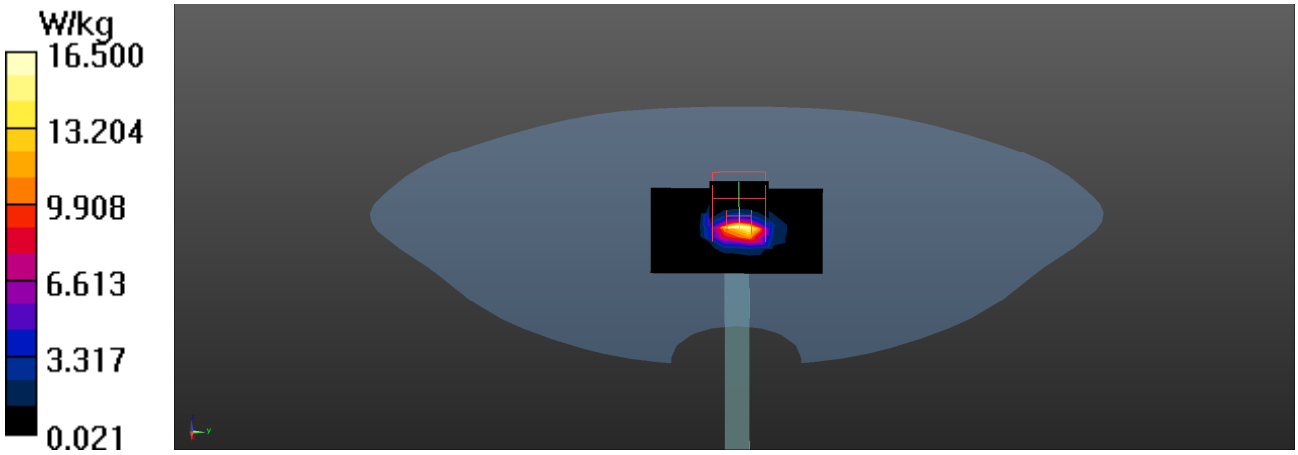
Communication System: UID 0, CW; Frequency: 5600 MHz
Communication System PAR: 0 dB
Medium parameters used: f = 5600 MHz; σ = 5.19 S/m; ε_r = 35.7; ρ = 1000 kg/m^3
Phantom section: Flat Section
Measurement Standard: DASY5 (IEEE/IEC/ANSI C63.19-2011)

DASY Configuration:

- Probe: EX3DV4 - SN3698; ConvF(4.41, 4.41, 4.41) @ 5600 MHz; Calibrated: 2023/11/21
- Sensor-Surface: 1.4mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn1207; Calibrated: 2023/11/22
- Phantom: SAM with Left table; Type: SAM;
- Measurement SW: DASY52, Version 52.10 (0);

Configuration/5600MHz-Head/Area Scan (8x8x1): Measurement grid: dx=10mm, dy=10mm
Maximum value of SAR (measured) = 16.5 W/kg

Configuration/5600MHz-Head/Zoom Scan (7x7x7)/Cube 0: Measurement grid: dx=4mm, dy=4mm, dz=1.4mm
Reference Value = 71.47 V/m; Power Drift = 0.13 dB
Peak SAR (extrapolated) = 32.8 W/kg
SAR(1 g) = 8.66 W/kg; SAR(10 g) = 2.43 W/kg
Smallest distance from peaks to all points 3 dB below = 6.9 mm
Ratio of SAR at M2 to SAR at M1 = 61.4%
Maximum value of SAR (measured) = 23.0 W/kg



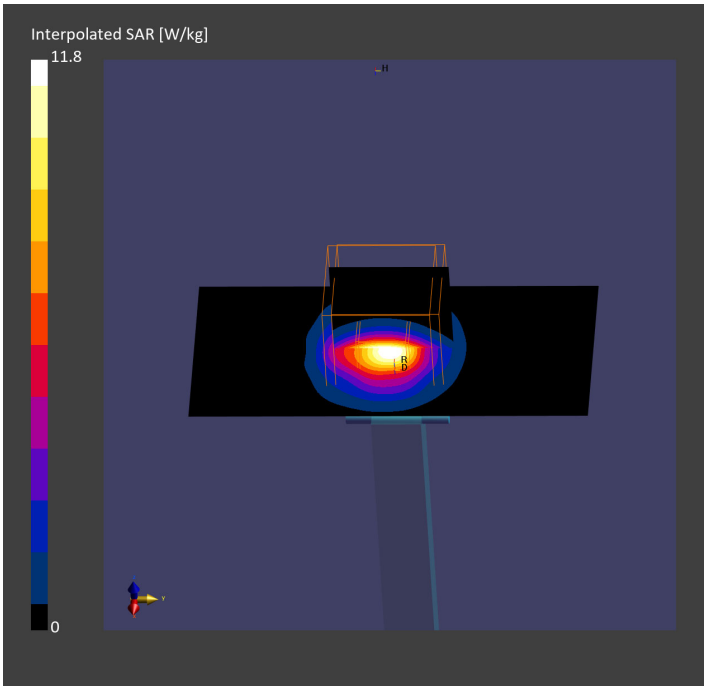
Test Laboratory: DEKRA Date: 2024-10-25

System Performance Check_5600MHz-Head

Communication System: UID 0--, CW; Frequency: 5600.000 MHz
Medium parameters used: f = 5600.000 MHz; Conductivity = 5.19 S/m; Permittivity = 35.7
Phantom section: Flat
DASY Configuration:

- Probe: EX3DV4 - SN7784; ConvF(4.41, 4.5, 4.47); Calibrated: 2024-04-22
- Sensor-Surface: 1.4 mm
- Electronics: DAE4 Sn1791; Calibrated: 2024-04-22
- Phantom: ELI V8.0 (20deg probe tilt)
- Measurement SW: V16.2.4.2524

Area Scan (40.0 mm x 80.0 mm): Measurement grid: 10.0 mm x 10.0 mm
SAR (1 g) = 7.46 W/kg; SAR (10 g) = 2.15 W/kg
Zoom Scan (22.0 mm x 22.0 mm x 22.0 mm): Measurement grid: 4.0 mm x 4.0 mm x 1.4 mm
Power Drift = -0.01 dB
SAR(1 g) = 8.05 W/kg; SAR(10 g) = 2.32 W/kg
Smallest distance from peaks to all points 3 dB below = 7.6
Ratio of SAR at M2 to SAR at M1 = 63.2

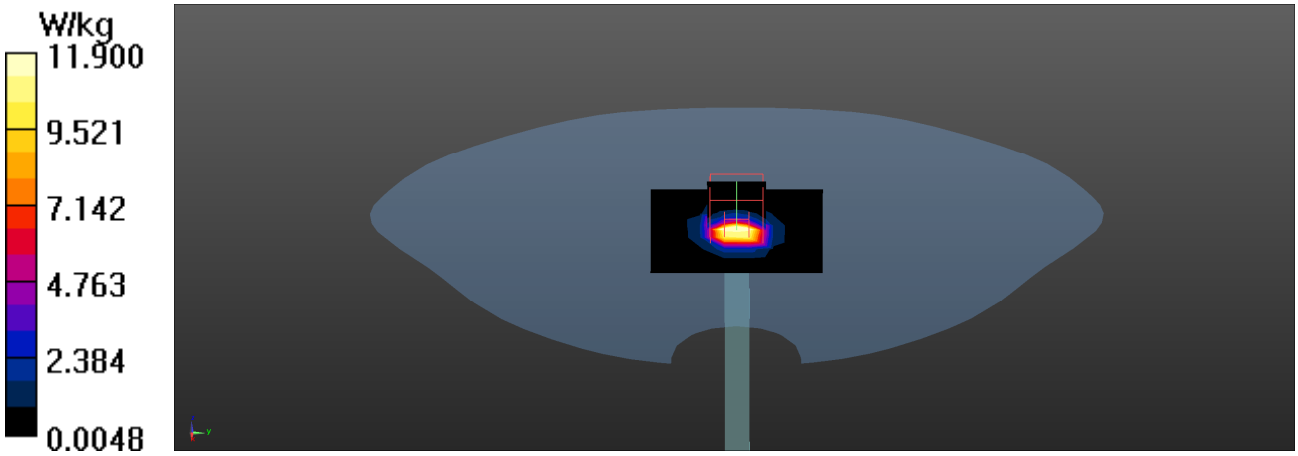


Test Laboratory: DEKRA Date: 2024/10/10
System Performance Check_5800MHz-Head
DUT: Dipole 5GHz; Type: D5GHzV2
Communication System: UID 0, CW; Frequency: 5800 MHz
Communication System PAR: 0 dB
Medium parameters used: f = 5800 MHz; σ = 5.45 S/m; ε_r = 35.1; ρ = 1000 kg/m^3
Phantom section: Flat Section
Measurement Standard: DASY5 (IEEE/IEC/ANSI C63.19-2011)
DASY Configuration:

- Probe: EX3DV4 - SN3698; ConvF(4.41, 4.41, 4.41) @ 5600 MHz; Calibrated: 2023/11/21
- Sensor-Surface: 1.4mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn1207; Calibrated: 2023/11/22
- Phantom: SAM with left table; Type: SAM;
- Measurement SW: DASY52, Version 52.10 (4);

Configuration/5800MHz-Head/Area Scan (8x8x1): Measurement grid: dx=10mm, dy=10mm
Maximum value of SAR (measured) = 11.9 W/kg

Configuration/5800MHz-Head/Zoom Scan (7x7x7)/Cube 0: Measurement grid: dx=4mm, dy=4mm, dz=1.4mm
Reference Value = 68.80 V/m; Power Drift = 0.02 dB
Peak SAR (extrapolated) = 29.9 W/kg
SAR(1 g) = 7.75 W/kg; SAR(10 g) = 2.19 W/kg
Smallest distance from peaks to all points 3 dB below = 7.2 mm
Ratio of SAR at M2 to SAR at M1 = 60.6%
Maximum value of SAR (measured) = 20.5 W/kg



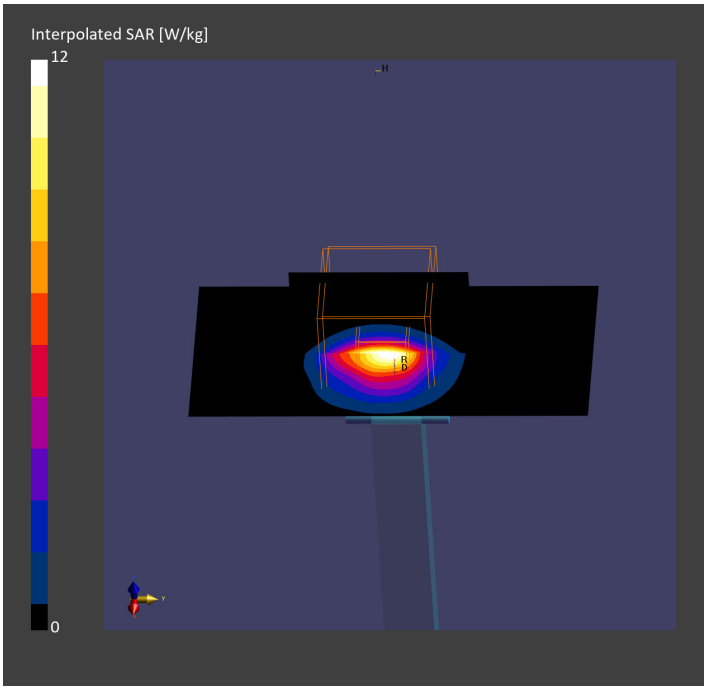
Test Laboratory: DEKRA Date: 2024-10-25

System Performance Check_5800MHz-Head

Communication System: UID 0--, CW; Frequency: 5800.000 MHz
Medium parameters used: f = 5800.000 MHz; Conductivity = 5.45 S/m; Permittivity = 35.1
Phantom section: Flat
DASY Configuration:

- Probe: EX3DV4 - SN7784; ConvF(4.47, 4.6, 4.54); Calibrated: 2024-04-22
- Sensor-Surface: 1.4 mm
- Electronics: DAE4 Sn1791; Calibrated: 2024-04-22
- Phantom: ELI V8.0 (20deg probe tilt)
- Measurement SW: V16.2.4.2524

Area Scan (40.0 mm x 80.0 mm): Measurement grid: 10.0 mm x 10.0 mm
SAR (1 g) = 7.76 W/kg; SAR (10 g) = 2.23 W/kg
Zoom Scan (22.0 mm x 22.0 mm x 22.0 mm): Measurement grid: 4.0 mm x 4.0 mm x 1.4 mm
Power Drift = 0.03 dB
SAR(1 g) = 8.51 W/kg; SAR(10 g) = 2.46 W/kg
Smallest distance from peaks to all points 3 dB below = 7.6
Ratio of SAR at M2 to SAR at M1 = 60.6



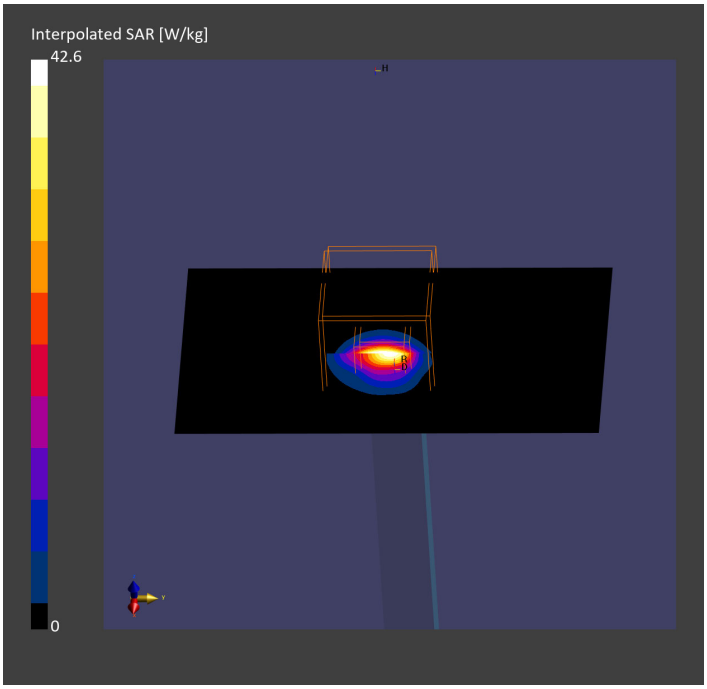
Test Laboratory: DEKRA Date: 2024-10-20

System Performance Check_6500MHz-Head

Communication System: UID 0--, CW; Frequency: 6500.000 MHz
Medium parameters used: f = 6500.000 MHz; Conductivity = 6.19 S/m; Permittivity = 35.4
Phantom section: Flat
DASY Configuration:

- Probe: EX3DV4 - SN7784; ConvF(4.71, 4.83, 4.78); Calibrated: 2024-04-22
- Sensor-Surface: 1.4 mm
- Electronics: DAE4 Sn1791; Calibrated: 2024-04-22
- Phantom: ELI V8.0 (20deg probe tilt)
- Measurement SW: V16.2.4.2524

Area Scan (51.0 mm x 85.0 mm): Measurement grid: 8.5 mm x 8.5 mm
SAR (1 g) = 23.5 W/kg; SAR (10 g) = 4.85 W/kg
Zoom Scan (22.0 mm x 22.0 mm x 22.0 mm): Measurement grid: 3.4 mm x 3.4 mm x 1.4 mm
Power Drift = 0.04 dB
SAR(1 g) = 28.6 W/kg; SAR(10 g) = 5.52 W/kg
psAPD (4.0cm2, sq) = 133 W/m2
Smallest distance from peaks to all points 3 dB below = 4.8
Ratio of SAR at M2 to SAR at M1 = 52.0



System Performance Check_10GHz
Device under Test Properties

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

Exposure Conditions

Phantom Section	Position, Test Distance [mm]	Band	Group, UID	Frequency [MHz], Channel Number	Conversion Factor
5G Air	FRONT, 10.00	Validation band	CW, 0--	10000.0, 10000	1.0

Hardware Setup

Phantom	Medium	Probe, Calibration Date	DAE, Calibration Date
mmWave- 1068	Air	EUmmWV4 - SN9546_F1-55GHz, 2024-04-18	DAE4 Sn1651, 2024-02-15

Scan Setup

	5G Scan
Grid Extents [mm]	60.0 x 60.0
Grid Steps [lambda]	0.125 x 0.125
Sensor Surface [mm]	10.0
MAIA	N/A

Measurement Results

	5G Scan
Date	2024-10-21
Avg. Area [cm^2]	4.00
psPDn+ [W/m^2]	179
psPDtot+ [W/m^2]	180
psPDmod+ [W/m^2]	185
E_{max} [V/m]	299
Power Drift [dB]	0.07