
Appendix A. System Check Data

Test Laboratory: DEKRA

Date: 2024-01-03

System Performance Check_2450MHz-Head

Communication System: UID 0--, CW; Frequency: 2450.000 MHz

Medium parameters used: $f = 2450.000$ MHz; Conductivity = 1.77 S/m; Permittivity = 39.1

Phantom section: Flat

DASY Configuration:

- Probe: EX3DV4 - SN7784; ConvF(6.59, 6.82, 6.72); Calibrated: 2023-02-01
- Sensor-Surface: 1.4 mm
- Electronics: DAE4 Sn1791; Calibrated: 2023-02-01
- Phantom: Twin-SAM V8.0 (30deg 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) = 13.7 W/kg; SAR (10 g) = 6.33 W/kg

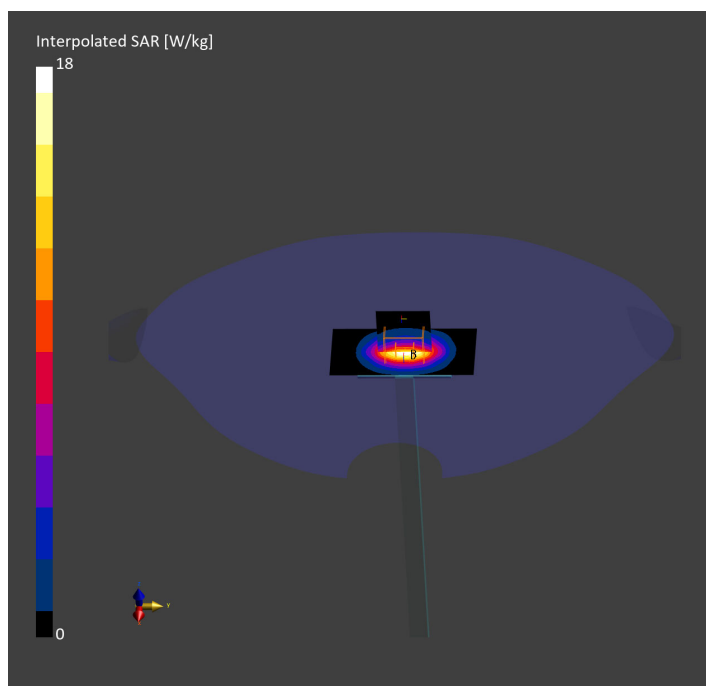
Zoom Scan (30.0 mm x 30.0 mm x 30.0 mm): Measurement grid: 5.0 mm x 5.0 mm x 1.5 mm

Power Drift = 0.00 dB

SAR(1 g) = 13.7 W/kg; SAR(10 g) = 6.42 W/kg

Smallest distance from peaks to all points 3 dB below = 9.0

Ratio of SAR at M2 to SAR at M1 = 80.0



Test Laboratory: DEKRA

Date: 2024-01-15

System Performance Check_2450MHz-Head

Communication System: UID 0--, CW; Frequency: 2450.000 MHz

Medium parameters used: $f = 2450.000$ MHz; Conductivity = 1.81 S/m; Permittivity = 40.4

Phantom section: Flat

DASY Configuration:

- Probe: EX3DV4 - SN7784; ConvF(6.59, 6.82, 6.72); Calibrated: 2023-02-01
- Sensor-Surface: 1.4 mm
- Electronics: DAE4 Sn1791; Calibrated: 2023-02-01
- Phantom: Twin-SAM V8.0 (30deg 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) = 13.6 W/kg; SAR (10 g) = 6.29 W/kg

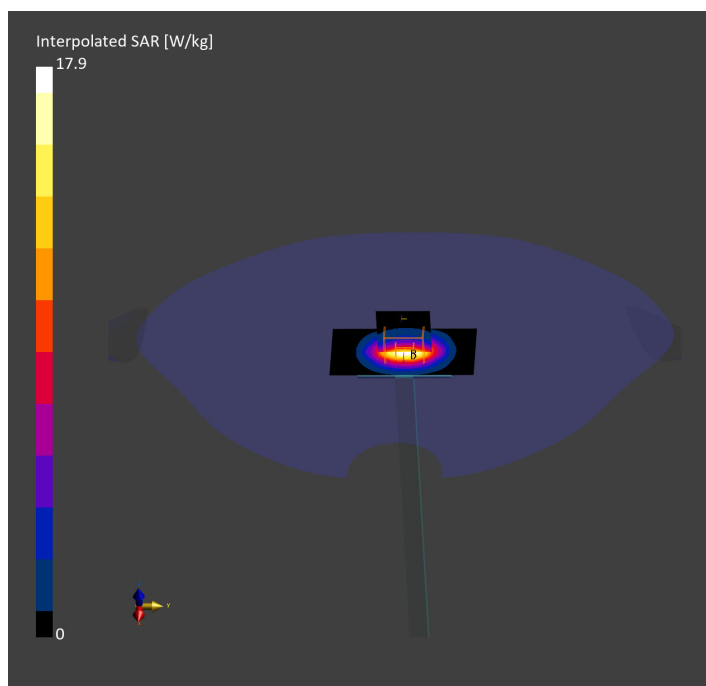
Zoom Scan (30.0 mm x 30.0 mm x 30.0 mm): Measurement grid: 5.0 mm x 5.0 mm x 1.5 mm

Power Drift = 0.02 dB

SAR(1 g) = 13.7 W/kg; SAR(10 g) = 6.41 W/kg

Smallest distance from peaks to all points 3 dB below = 9.0

Ratio of SAR at M2 to SAR at M1 = 80.2



Test Laboratory: DEKRA

Date: 2024-01-03

System Performance Check_5250MHz-Head

Communication System: UID 0--, CW; Frequency: 5250.000 MHz

Medium parameters used: $f = 5250.000$ MHz; Conductivity = 4.68 S/m; Permittivity = 35.7

Phantom section: Flat

DASY Configuration:

- Probe: EX3DV4 - SN7784; ConvF(5.22, 5.31, 5.26); Calibrated: 2023-02-01
- Sensor-Surface: 1.4 mm
- Electronics: DAE4 Sn1791; Calibrated: 2023-02-01
- Phantom: Twin-SAM V8.0 (30deg 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) = 6.86 W/kg; SAR (10 g) = 2.01 W/kg

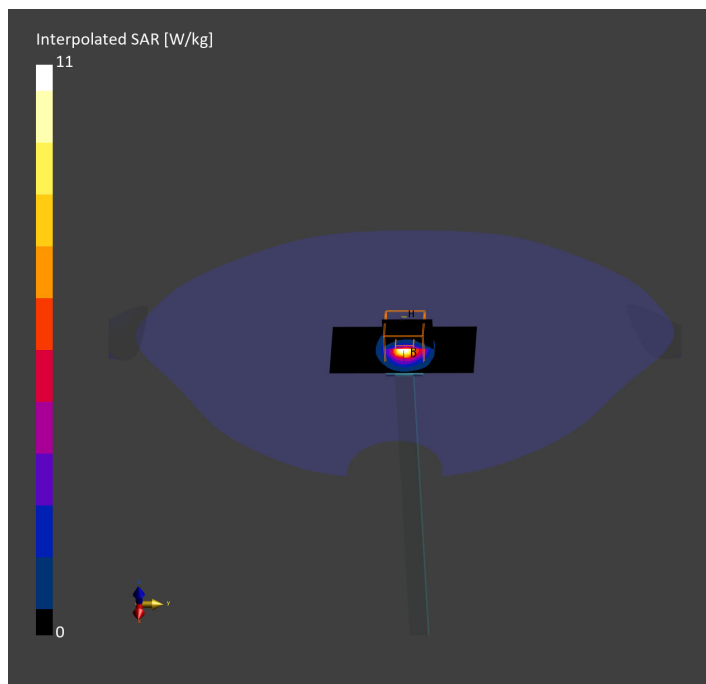
Zoom Scan (22.0 mm x 22.0 mm x 22.0 mm): Measurement grid: 4.0 mm x 4.0 mm x 1.4 mm

Power Drift = -0.00 dB

SAR(1 g) = 7.67 W/kg; SAR(10 g) = 2.25 W/kg

Smallest distance from peaks to all points 3 dB below = 7.3

Ratio of SAR at M2 to SAR at M1 = 62.8



Test Laboratory: DEKRA

Date: 2024-01-16

System Performance Check_5250MHz-Head

Communication System: UID 0--, CW; Frequency: 5250.000 MHz

Medium parameters used: $f = 5250.000$ MHz; Conductivity = 4.59 S/m; Permittivity = 36.9

Phantom section: Flat

DASY Configuration:

- Probe: EX3DV4 - SN7784; ConvF(5.22, 5.31, 5.26); Calibrated: 2023-02-01
- Sensor-Surface: 1.4 mm
- Electronics: DAE4 Sn1791; Calibrated: 2023-02-01
- Phantom: Twin-SAM V8.0 (30deg 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) = 6.74 W/kg; SAR (10 g) = 1.97 W/kg

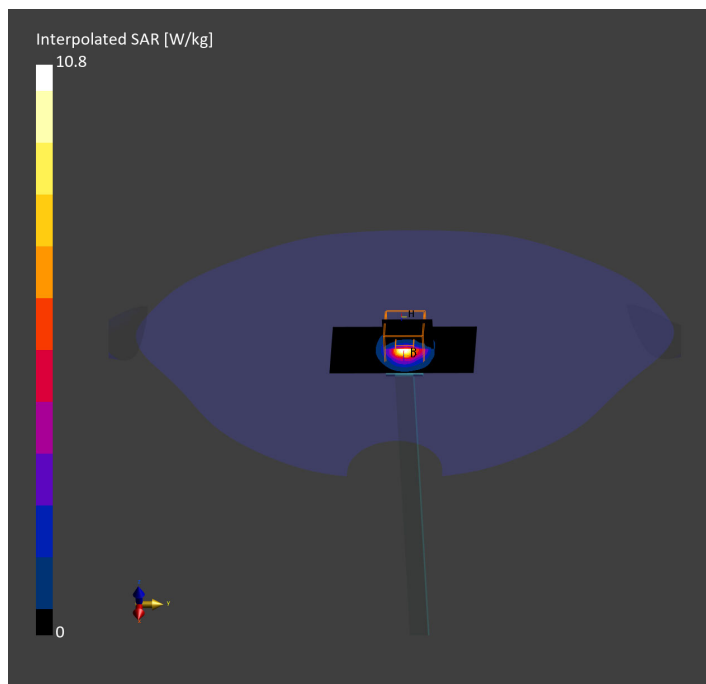
Zoom Scan (22.0 mm x 22.0 mm x 22.0 mm): Measurement grid: 4.0 mm x 4.0 mm x 1.4 mm

Power Drift = 0.00 dB

SAR(1 g) = 7.47 W/kg; SAR(10 g) = 2.19 W/kg

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

Ratio of SAR at M2 to SAR at M1 = 63.0



Test Laboratory: DEKRA

Date: 2024-01-03

System Performance Check_5600MHz-Head

Communication System: UID 0--, CW; Frequency: 5600.000 MHz

Medium parameters used: $f = 5600.000$ MHz; Conductivity = 5.16 S/m; Permittivity = 34.7

Phantom section: Flat

DASY Configuration:

- Probe: EX3DV4 - SN7784; ConvF(4.31, 4.62, 4.51); Calibrated: 2023-02-01
- Sensor-Surface: 1.4 mm
- Electronics: DAE4 Sn1791; Calibrated: 2023-02-01
- Phantom: Twin-SAM V8.0 (30deg 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) = 7.97 W/kg; SAR (10 g) = 2.25 W/kg

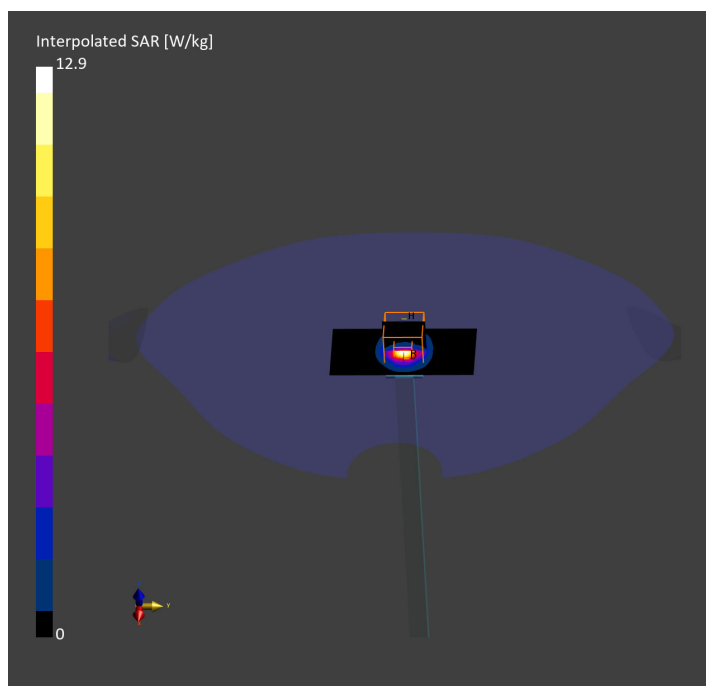
Zoom Scan (22.0 mm x 22.0 mm x 22.0 mm): Measurement grid: 4.0 mm x 4.0 mm x 1.4 mm

Power Drift = -0.01 dB

SAR(1 g) = 8.62 W/kg; SAR(10 g) = 2.45 W/kg

Smallest distance from peaks to all points 3 dB below = 7.2

Ratio of SAR at M2 to SAR at M1 = 61.8



Test Laboratory: DEKRA

Date: 2024-01-16

System Performance Check_5600MHz-Head

Communication System: UID 0--, CW; Frequency: 5600.000 MHz

Medium parameters used: $f = 5600.000$ MHz; Conductivity = 5.06 S/m; Permittivity = 36.0

Phantom section: Flat

DASY Configuration:

- Probe: EX3DV4 - SN7784; ConvF(4.31, 4.62, 4.51); Calibrated: 2023-02-01
- Sensor-Surface: 1.4 mm
- Electronics: DAE4 Sn1791; Calibrated: 2023-02-01
- Phantom: Twin-SAM V8.0 (30deg 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) = 8.70 W/kg; SAR (10 g) = 2.45 W/kg

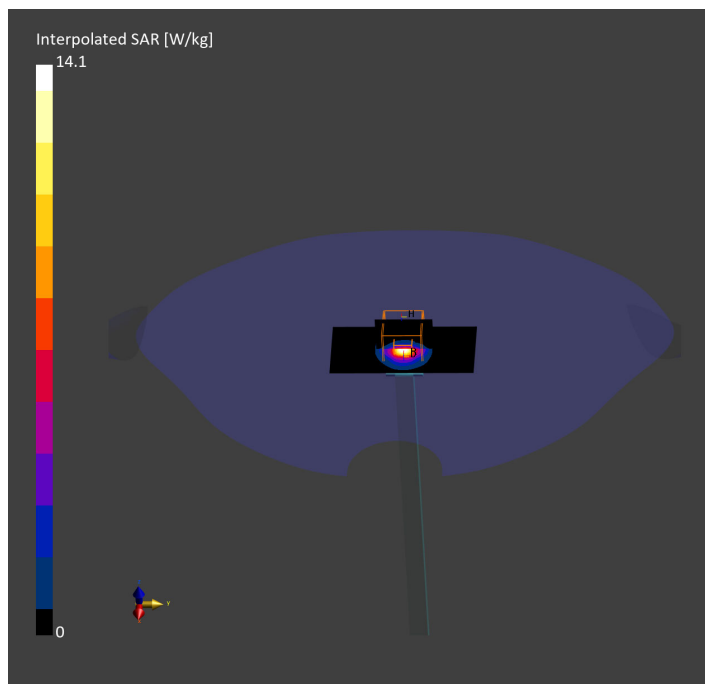
Zoom Scan (22.0 mm x 22.0 mm x 22.0 mm): Measurement grid: 4.0 mm x 4.0 mm x 1.4 mm

Power Drift = -0.01 dB

SAR(1 g) = 9.22 W/kg; SAR(10 g) = 2.61 W/kg

Smallest distance from peaks to all points 3 dB below = 7.6

Ratio of SAR at M2 to SAR at M1 = 62.9



Test Laboratory: DEKRA

Date: 2024-01-03

System Performance Check_5800MHz-Head

Communication System: UID 0--, CW; Frequency: 5800.000 MHz

Medium parameters used: f = 5800.000 MHz; Conductivity = 5.42 S/m; Permittivity = 34.2

Phantom section: Flat

DASY Configuration:

- Probe: EX3DV4 - SN7784; ConvF(4.45, 4.57, 4.5); Calibrated: 2023-02-01
- Sensor-Surface: 1.4 mm
- Electronics: DAE4 Sn1791; Calibrated: 2023-02-01
- Phantom: Twin-SAM V8.0 (30deg 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) = 7.01 W/kg; SAR (10 g) = 2.02 W/kg

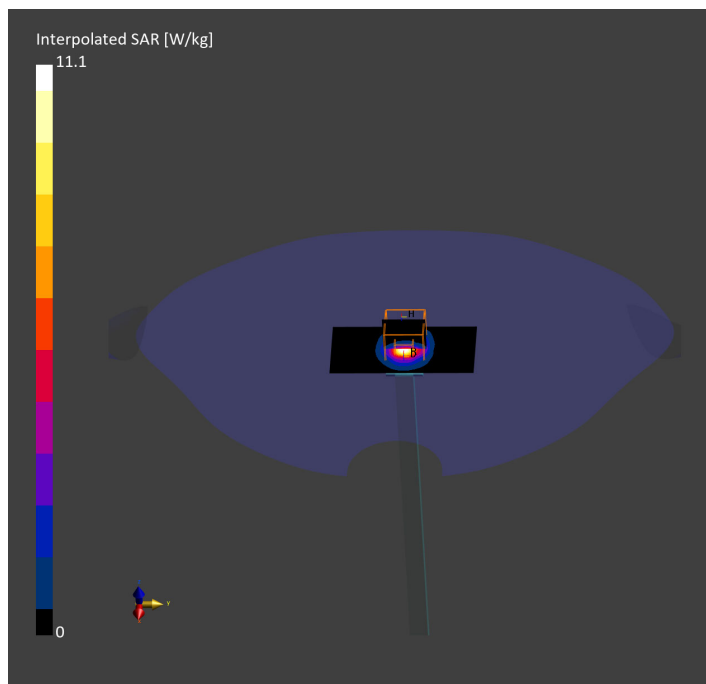
Zoom Scan (22.0 mm x 22.0 mm x 22.0 mm): Measurement grid: 4.0 mm x 4.0 mm x 1.4 mm

Power Drift = 0.00 dB

SAR(1 g) = 7.62 W/kg; SAR(10 g) = 2.18 W/kg

Smallest distance from peaks to all points 3 dB below = 7.3

Ratio of SAR at M2 to SAR at M1 = 60.9



Test Laboratory: DEKRA

Date: 2024-01-16

System Performance Check_5800MHz-Head

Communication System: UID 0--, CW; Frequency: 5800.000 MHz

Medium parameters used: $f = 5800.000$ MHz; Conductivity = 5.32 S/m; Permittivity = 35.4

Phantom section: Flat

DASY Configuration:

- Probe: EX3DV4 - SN7784; ConvF(4.45, 4.57, 4.5); Calibrated: 2023-02-01
- Sensor-Surface: 1.4 mm
- Electronics: DAE4 Sn1791; Calibrated: 2023-02-01
- Phantom: Twin-SAM V8.0 (30deg 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) = 6.85 W/kg; SAR (10 g) = 1.97 W/kg

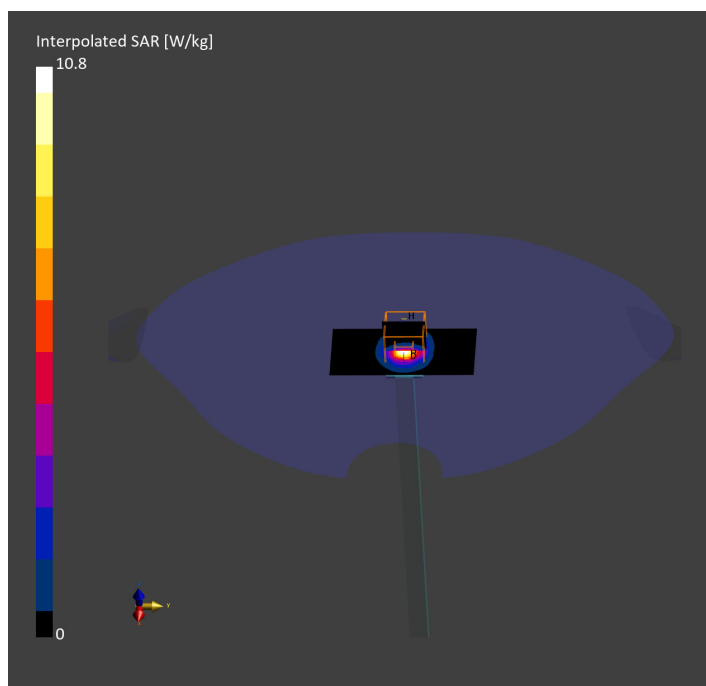
Zoom Scan (22.0 mm x 22.0 mm x 22.0 mm): Measurement grid: 4.0 mm x 4.0 mm x 1.4 mm

Power Drift = 0.00 dB

SAR(1 g) = 7.46 W/kg; SAR(10 g) = 2.13 W/kg

Smallest distance from peaks to all points 3 dB below = 7.3

Ratio of SAR at M2 to SAR at M1 = 60.9



Test Laboratory: DEKRA

Date: 2024-01-03

System Performance Check_6500MHz-Head

Communication System: UID 0--, CW; Frequency: 6500.000 MHz

Medium parameters used: $f = 6500.000$ MHz; Conductivity = 5.98 S/m; Permittivity = 35.6

Phantom section: Flat

DASY Configuration:

- Probe: EX3DV4 - SN7784; ConvF(4.63, 4.59, 4.78); Calibrated: 2023-02-01
- Sensor-Surface: 1.4 mm
- Electronics: DAE4 Sn1791; Calibrated: 2023-02-01
- Phantom: Twin-SAM V8.0 (30deg 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) = 24.1 W/kg; SAR (10 g) = 5.02 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

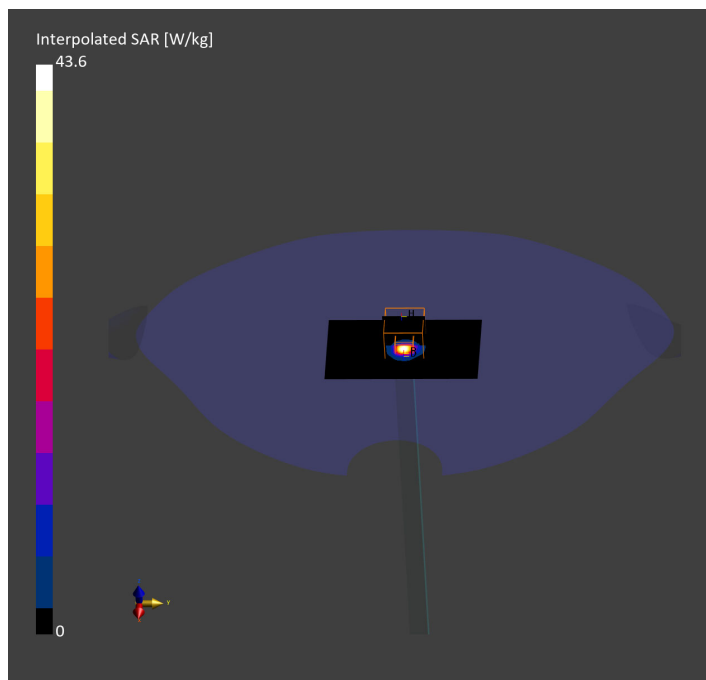
Power Drift = 0.01 dB

SAR(1 g) = 30.5 W/kg; SAR(10 g) = 5.78 W/kg

psAPD (4.0cm², sq) = 140 W/m²

Smallest distance from peaks to all points 3 dB below = 4.6

Ratio of SAR at M2 to SAR at M1 = 50.1



Test Laboratory: DEKRA

Date: 2024-01-15

System Performance Check_6500MHz-Head

Communication System: UID 0--, CW; Frequency: 6500.000 MHz

Medium parameters used: f = 6500.000 MHz; Conductivity = 5.99 S/m; Permittivity = 35.6

Phantom section: Flat

DASY Configuration:

- Probe: EX3DV4 - SN7784; ConvF(4.63, 4.59, 4.78); Calibrated: 2023-02-01
- Sensor-Surface: 1.4 mm
- Electronics: DAE4 Sn1791; Calibrated: 2023-02-01
- Phantom: Twin-SAM V8.0 (30deg 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) = 23.9 W/kg; SAR (10 g) = 5.00 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

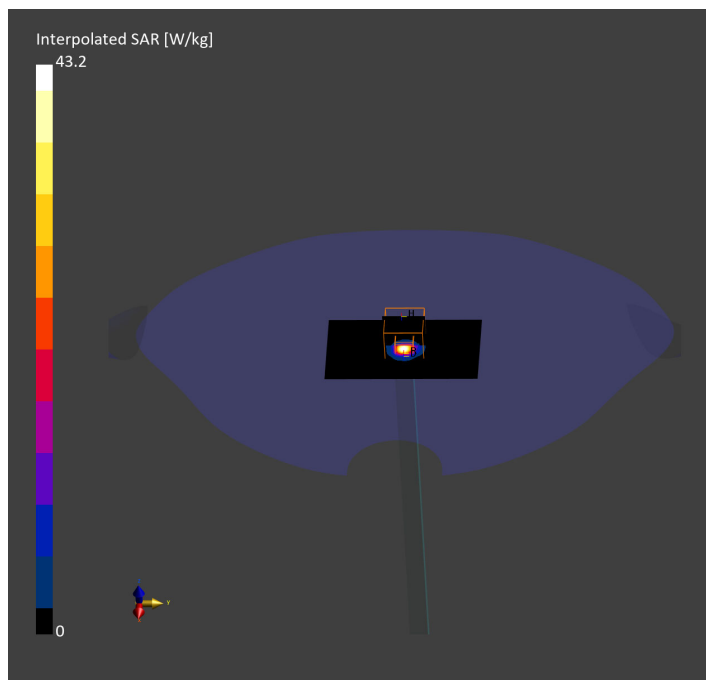
Power Drift = 0.00 dB

SAR(1 g) = 30.3 W/kg; SAR(10 g) = 5.74 W/kg

psAPD (4.0cm², sq) = 140 W/m²

Smallest distance from peaks to all points 3 dB below = 4.6

Ratio of SAR at M2 to SAR at M1 = 50.0



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 | SN:2006 | |

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

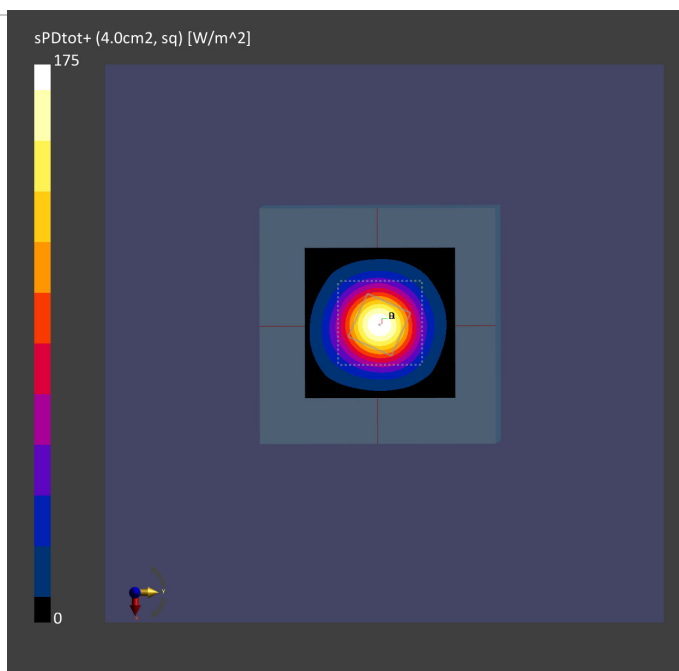
| Phantom | Medium | Probe, Calibration Date | DAE, Calibration Date |
|--------------|--------|---------------------------------------|-------------------------|
| mmWave- 1068 | Air--- | EUmmWV4 - SN9546_F1-55GHz, 2023-04-18 | DAE4 Sn1651, 2023-02-22 |

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 | 2024-01-05 |
| Avg. Area [cm ²] | 4.00 |
| psPDn+ [W/m ²] | 175 |
| psPDtot+ [W/m ²] | 175 |
| psPDmod+ [W/m ²] | 179 |
| E _{max} [V/m] | 297 |
| Power Drift [dB] | -0.01 |



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 | SN:2006 | |

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, 2023-04-18 | DAE4 Sn1651, 2023-02-22 |

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 | 2024-01-17 |
| Avg. Area [cm ²] | 4.00 |
| psPDn+ [W/m ²] | 173 |
| psPDtot+ [W/m ²] | 173 |
| psPDmod+ [W/m ²] | 178 |
| E _{max} [V/m] | 292 |
| Power Drift [dB] | -0.01 |

