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## Appendix A. System Check Data

Test Laboratory: DEKRA

Date: 2023-09-11

**System Performance Check\_2450MHz-Head**

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

Medium parameters used:  $f = 2450.000$  MHz; Conductivity = 1.83 S/m; Permittivity = 40.3

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: 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) = 13.4 W/kg; SAR(10 g) = 6.27 W/kg

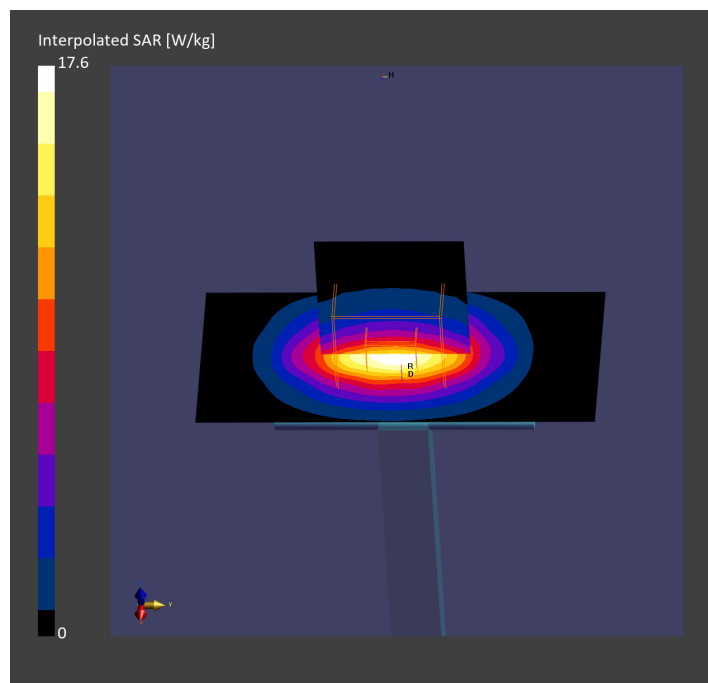
**Zoom Scan (30.0 mm x 30.0 mm x 30.0 mm ):** Measurement grid: 5.0 mm x 5.0 mm x 1.5 mm

Power Drift = 0.01 dB

SAR(1 g) = 13.8 W/kg; SAR(10 g) = 6.50 W/kg

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

Ratio of SAR at M2 to SAR at M1 = 78.0



Test Laboratory: DEKRA

Date: 2023-09-12

**System Performance Check\_5250MHz-Head**

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

Medium parameters used:  $f = 5250.000$  MHz; Conductivity = 4.62 S/m; Permittivity = 36.6

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: 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) = 7.48 W/kg; SAR(10 g) = 2.23 W/kg

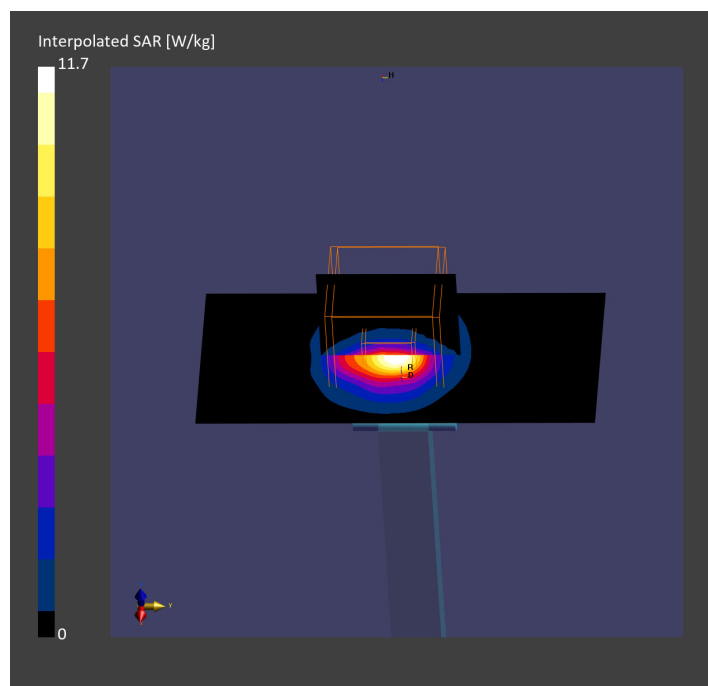
**Zoom Scan (22.0 mm x 22.0 mm x 22.0 mm ):** Measurement grid: 4.0 mm x 4.0 mm x 1.4 mm

Power Drift = 0.00 dB

SAR(1 g) = 8.38 W/kg; SAR(10 g) = 2.41 W/kg

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

Ratio of SAR at M2 to SAR at M1 = 63.5



Test Laboratory: DEKRA

Date: 2023-09-12

**System Performance Check\_5600MHz-Head**

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

Medium parameters used:  $f = 5600.000$  MHz; Conductivity = 5.08 S/m; Permittivity = 35.6

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: 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) = 8.56 W/kg; SAR(10 g) = 2.42 W/kg

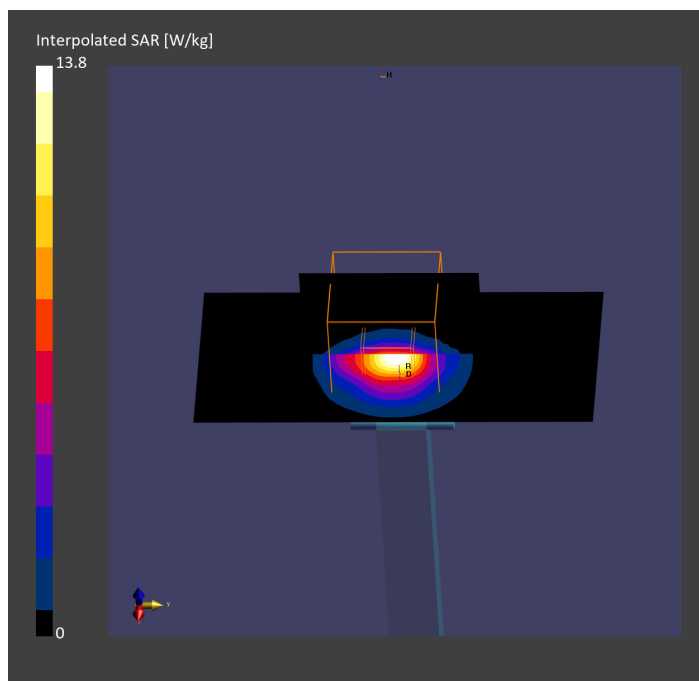
**Zoom Scan (22.0 mm x 22.0 mm x 22.0 mm ):** Measurement grid: 4.0 mm x 4.0 mm x 1.4 mm

Power Drift = 0.01 dB

SAR(1 g) = 9.10 W/kg; SAR(10 g) = 2.59 W/kg

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

Ratio of SAR at M2 to SAR at M1 = 62.9



Test Laboratory: DEKRA

Date: 2023-09-12

**System Performance Check\_5800MHz-Head**

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

Medium parameters used:  $f = 5800.000$  MHz; Conductivity = 5.36 S/m; Permittivity = 35.1

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: 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) = 7.93 W/kg; SAR(10 g) = 2.34 W/kg

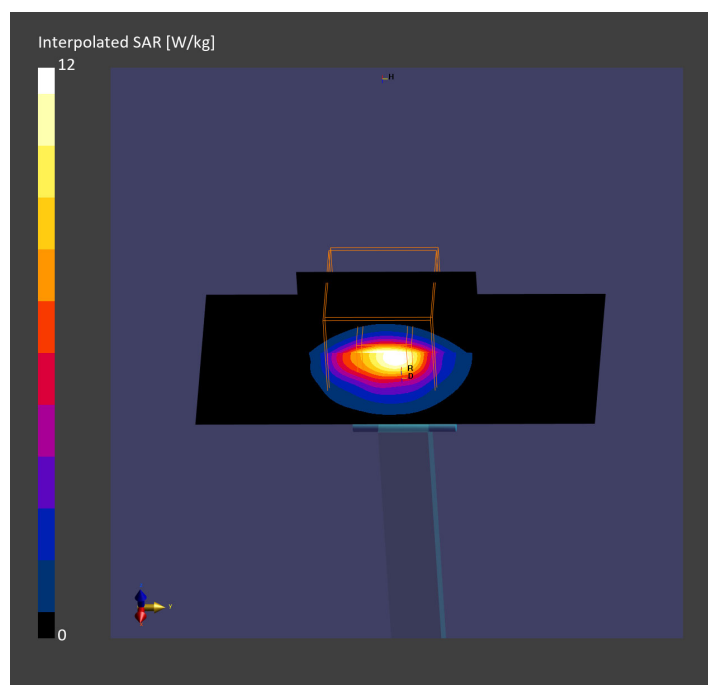
**Zoom Scan (22.0 mm x 22.0 mm x 22.0 mm ):** Measurement grid: 4.0 mm x 4.0 mm x 1.4 mm

Power Drift = -0.00 dB

SAR(1 g) = 8.80 W/kg; SAR(10 g) = 2.50 W/kg

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

Ratio of SAR at M2 to SAR at M1 = 61.2



Test Laboratory: DEKRA

Date: 2023-09-06

**System Performance Check\_6500MHz-Head**

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

Medium parameters used:  $f = 6500.000$  MHz; Conductivity = 5.86 S/m; Permittivity = 34.7

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: 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) = 26.7 W/kg; SAR(10 g) = 5.36 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

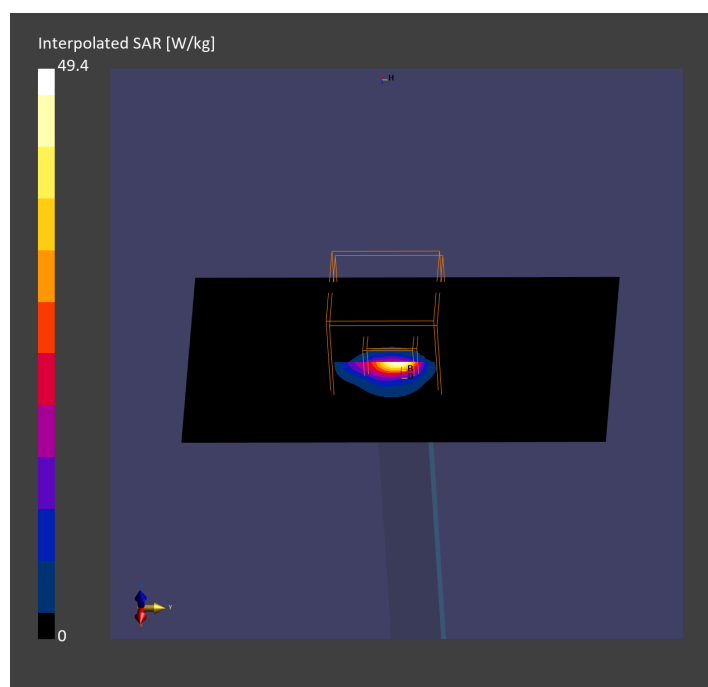
Power Drift = -0.01 dB

SAR(1 g) = 31.8 W/kg; SAR(10 g) = 5.87 W/kg

psAPD (4.0cm<sup>2</sup>, sq) = 145 W/m<sup>2</sup>

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

Ratio of SAR at M2 to SAR at M1 = 49.4



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

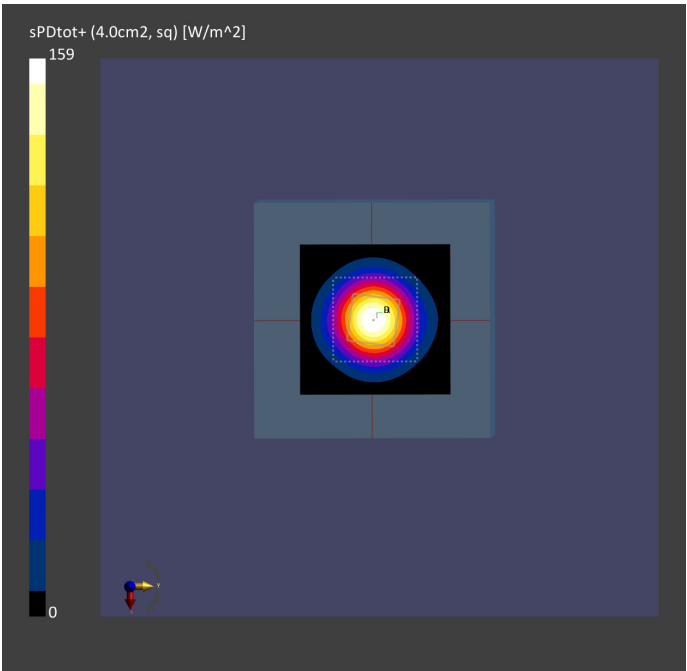
| Phantom      | Medium | Probe, Calibration Date               | DAE, Calibration Date   |
|--------------|--------|---------------------------------------|-------------------------|
| mmWave- 1068 | Air--- | EUmmWV4 - SN9546_F1-55GHz, 2023-04-18 | DAE4 Sn1651, 2023-02-22 |

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                   | 2023-09-09 |
| Avg. Area [cm²]        | 4.00       |
| psPDn+ [W/m²]          | 159        |
| psPDtot+ [W/m²]        | 159        |
| psPDmod+ [W/m²]        | 163        |
| E <sub>max</sub> [V/m] | 282        |
| Power Drift [dB]       | -0.00      |



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                   | 2023-09-10 |
| Avg. Area [cm²]        | 4.00       |
| psPDn+ [W/m²]          | 168        |
| psPDtot+ [W/m²]        | 168        |
| psPDmod+ [W/m²]        | 173        |
| E <sub>max</sub> [V/m] | 288        |
| Power Drift [dB]       | -0.00      |

