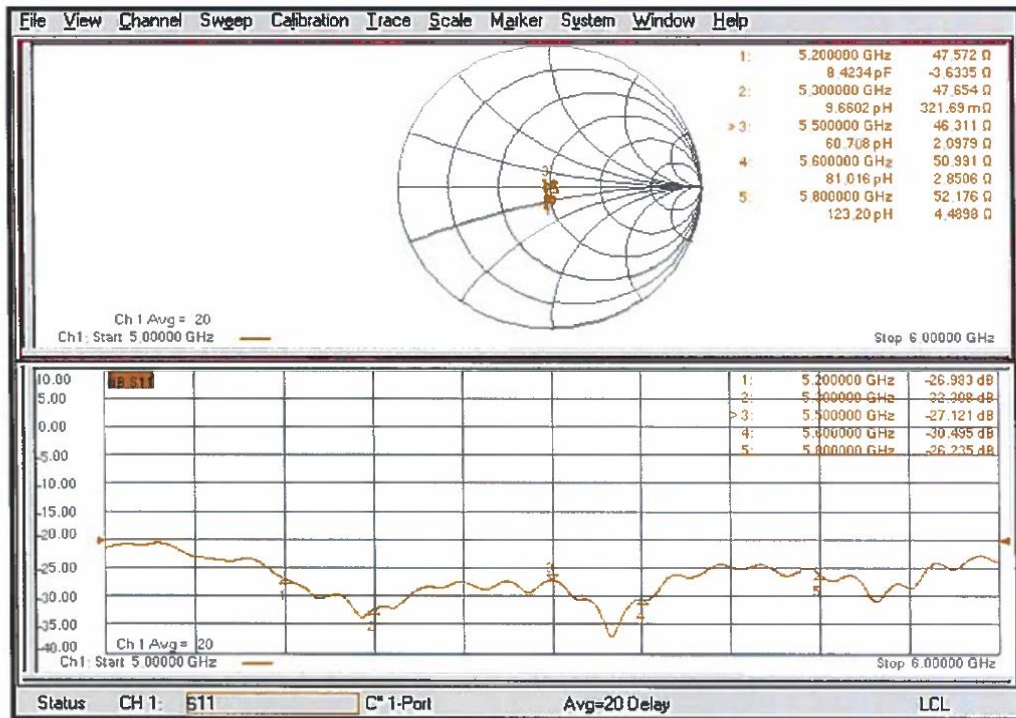




### Impedance Measurement Plot for Head TSL





## DASY5 Validation Report for Body TSL

Date: 14.12.2023

Test Laboratory: SPEAG, Zurich, Switzerland

**DUT: Dipole D5GHzV2; Type: D5GHzV2; Serial: D5GHzV2 - SN:1100**

Communication System: UID 0 - CW; Frequency: 5200 MHz, Frequency: 5300 MHz, Frequency: 5500 MHz, Frequency: 5600 MHz, Frequency: 5800 MHz

Medium parameters used:  $f = 5200$  MHz;  $\sigma = 5.44$  S/m;  $\epsilon_r = 49.2$ ;  $\rho = 1000$  kg/m<sup>3</sup>,

Medium parameters used:  $f = 5300$  MHz;  $\sigma = 5.60$  S/m;  $\epsilon_r = 49.1$ ;  $\rho = 1000$  kg/m<sup>3</sup>,

Medium parameters used:  $f = 5500$  MHz;  $\sigma = 5.88$  S/m;  $\epsilon_r = 48.8$ ;  $\rho = 1000$  kg/m<sup>3</sup>,

Medium parameters used:  $f = 5600$  MHz;  $\sigma = 6.01$  S/m;  $\epsilon_r = 48.7$ ;  $\rho = 1000$  kg/m<sup>3</sup>,

Medium parameters used:  $f = 5800$  MHz;  $\sigma = 6.28$  S/m;  $\epsilon_r = 48.3$ ;  $\rho = 1000$  kg/m<sup>3</sup>

Phantom section: Flat Section

Measurement Standard: DASY5 (IEEE/IEC/ANSI C63.19-2011)

DASY52 Configuration:

- Probe: EX3DV4 - SN3503; ConvF(5.29, 5.29, 5.29) @ 5200 MHz, ConvF(5.23, 5.23, 5.23) @ 5300 MHz, ConvF(4.84, 4.84, 4.84) @ 5500 MHz, ConvF(4.79, 4.79, 4.79) @ 5600 MHz, ConvF(4.62, 4.62, 4.62) @ 5800 MHz; Calibrated: 07.03.2023
- Sensor-Surface: 1.4mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn601; Calibrated: 03.10.2023
- Phantom: Flat Phantom 5.0 (back); Type: QD 000 P50 AA; Serial: 1002
- DASY52 52.10.4(1535); SEMCAD X 14.6.14(7501)

### **Dipole Calibration for Body Tissue/Pin=100mW, dist=10mm, f=5200 MHz/Zoom Scan,**

**dist=1.4mm (8x8x7)/Cube 0:** Measurement grid: dx=4mm, dy=4mm, dz=1.4mm

Reference Value = 65.06 V/m; Power Drift = -0.07 dB

Peak SAR (extrapolated) = 26.0 W/kg

**SAR(1 g) = 7.31 W/kg; SAR(10 g) = 2.07 W/kg**

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

Ratio of SAR at M2 to SAR at M1 = 69.3%

Maximum value of SAR (measured) = 16.5 W/kg

### **Dipole Calibration for Body Tissue/Pin=100mW, dist=10mm, f=5300 MHz/Zoom Scan,**

**dist=1.4mm (8x8x7)/Cube 0:** Measurement grid: dx=4mm, dy=4mm, dz=1.4mm

Reference Value = 64.35 V/m; Power Drift = -0.08 dB

Peak SAR (extrapolated) = 27.4 W/kg

**SAR(1 g) = 7.33 W/kg; SAR(10 g) = 2.06 W/kg**

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

Ratio of SAR at M2 to SAR at M1 = 67.8%

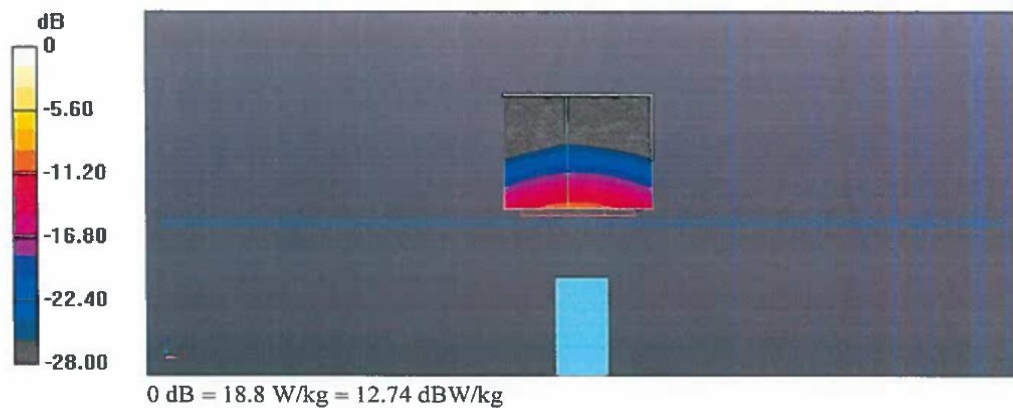
Maximum value of SAR (measured) = 16.9 W/kg



**Dipole Calibration for Body Tissue/Pin=100mW, dist=10mm, f=5500 MHz/Zoom Scan, dist=1.4mm (8x8x7)/Cube 0:** Measurement grid: dx=4mm, dy=4mm, dz=1.4mm  
Reference Value = 66.02 V/m; Power Drift = -0.07 dB  
Peak SAR (extrapolated) = 31.2 W/kg  
**SAR(1 g) = 7.86 W/kg; SAR(10 g) = 2.17 W/kg**  
Smallest distance from peaks to all points 3 dB below = 7.2 mm  
Ratio of SAR at M2 to SAR at M1 = 66%  
Maximum value of SAR (measured) = 18.5 W/kg

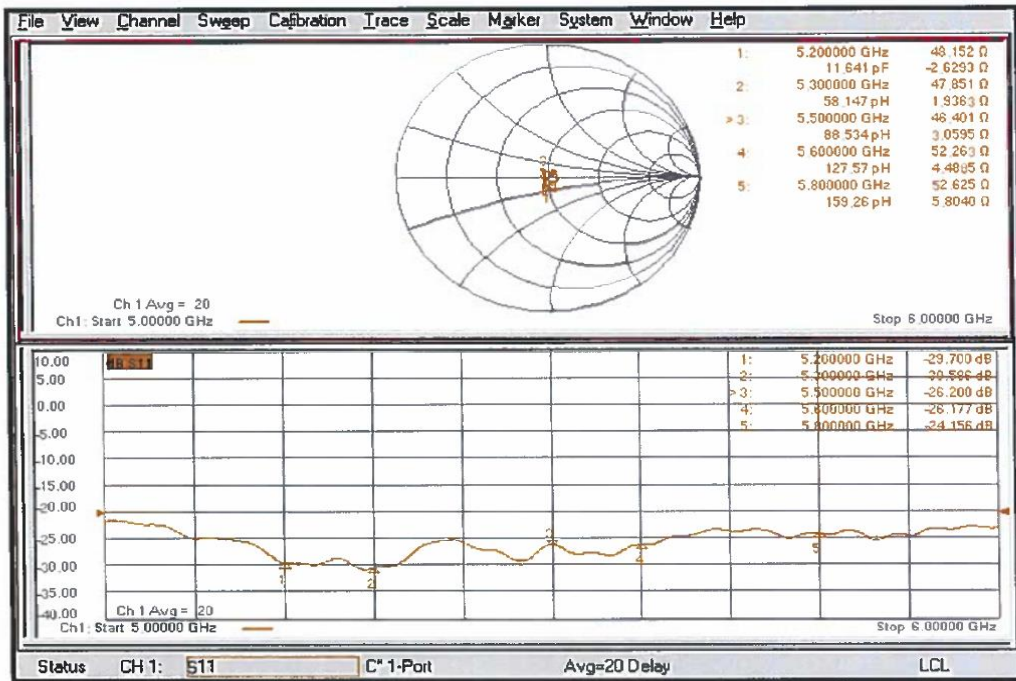
**Dipole Calibration for Body Tissue/Pin=100mW, dist=10mm, f=5600 MHz/Zoom Scan, dist=1.4mm (8x8x7)/Cube 0:** Measurement grid: dx=4mm, dy=4mm, dz=1.4mm  
Reference Value = 64.95 V/m; Power Drift = -0.09 dB  
Peak SAR (extrapolated) = 32.2 W/kg  
**SAR(1 g) = 7.86 W/kg; SAR(10 g) = 2.21 W/kg**  
Smallest distance from peaks to all points 3 dB below = 7.2 mm  
Ratio of SAR at M2 to SAR at M1 = 64.7%  
Maximum value of SAR (measured) = 18.8 W/kg

**Dipole Calibration for Body Tissue/Pin=100mW, dist=10mm, f=5800 MHz/Zoom Scan, dist=1.4mm (8x8x7)/Cube 0:** Measurement grid: dx=4mm, dy=4mm, dz=1.4mm  
Reference Value = 63.73 V/m; Power Drift = -0.08 dB  
Peak SAR (extrapolated) = 31.2 W/kg  
**SAR(1 g) = 7.50 W/kg; SAR(10 g) = 2.07 W/kg**  
Smallest distance from peaks to all points 3 dB below = 7.2 mm  
Ratio of SAR at M2 to SAR at M1 = 64.5%  
Maximum value of SAR (measured) = 18.0 W/kg





### Impedance Measurement Plot for Body TSL







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**Schmid & Partner**  
**Engineering AG**  
Zeughausstrasse 43, 8004 Zurich, Switzerland



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Accreditation No.: **SCS 0108**

Client **TÜV SÜD**  
**Fareham, United Kingdom**

Certificate No. **D2450V2-715\_Dec23**

## CALIBRATION CERTIFICATE

Object **D2450V2 - SN:715**

Calibration procedure(s) **QA CAL-05.v12**  
**Calibration Procedure for SAR Validation Sources between 0.7-3 GHz**

Calibration date: **December 07, 2023**

This calibration certificate documents the traceability to national standards, which realize the physical units of measurements (SI).  
The measurements and the uncertainties with confidence probability are given on the following pages and are part of the certificate.

All calibrations have been conducted in the closed laboratory facility: environment temperature  $(22 \pm 3)^\circ\text{C}$  and humidity  $< 70\%$ .

Calibration Equipment used (M&TE critical for calibration)

Primary Standards	ID #	Cal Date (Certificate No.)	Scheduled Calibration
Power meter NRP2	SN: 104778	30-Mar-23 (No. 217-03804/03805)	Mar-24
Power sensor NRP-Z91	SN: 103244	30-Mar-23 (No. 217-03804)	Mar-24
Power sensor NRP-Z91	SN: 103245	30-Mar-23 (No. 217-03805)	Mar-24
Reference 20 dB Attenuator	SN: BH9394 (20k)	30-Mar-23 (No. 217-03809)	Mar-24
Type-N mismatch combination	SN: 310982 / 06327	30-Mar-23 (No. 217-03810)	Mar-24
Reference Probe EX3DV4	SN: 7349	03-Nov-23 (No. EX3-7349_Nov23)	Nov-24
DAE4	SN: 601	03-Oct-23 (No. DAE4-601_Oct23)	Oct-24
Secondary Standards	ID #	Check Date (in house)	Scheduled Check
Power meter E4419B	SN: GB39512475	30-Oct-14 (in house check Oct-22)	In house check: Oct-24
Power sensor HP 8481A	SN: US37292783	07-Oct-15 (in house check Oct-22)	In house check: Oct-24
Power sensor HP 8481A	SN: MY41093315	07-Oct-15 (in house check Oct-22)	In house check: Oct-24
RF generator R&S SMT-06	SN: 100972	15-Jun-15 (in house check Oct-22)	In house check: Oct-24
Network Analyzer Agilent E8358A	SN: US41080477	31-Mar-14 (in house check Oct-22)	In house check: Oct-24

Calibrated by:	Name Paulo Pina	Function Laboratory Technician	Signature 
Approved by:	Sven Kühn	Technical Manager	

Issued: December 8, 2023

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Multilateral Agreement for the recognition of calibration certificates

Accreditation No.: **SCS 0108**

**Glossary:**

TSL	tissue simulating liquid
ConvF	sensitivity in TSL / NORM x,y,z
N/A	not applicable or not measured

**Calibration is Performed According to the Following Standards:**

- IEC/IEEE 62209-1528, "Measurement Procedure For The Assessment Of Specific Absorption Rate Of Human Exposure To Radio Frequency Fields From Hand-Held And Body-Worn Wireless Communication Devices - Part 1528: Human Models, Instrumentation And Procedures (Frequency Range of 4 MHz to 10 GHz)", October 2020.
- KDB 865664, "SAR Measurement Requirements for 100 MHz to 6 GHz"

**Additional Documentation:**

- DASY System Handbook

**Methods Applied and Interpretation of Parameters:**

- Measurement Conditions:** Further details are available from the Validation Report at the end of the certificate. All figures stated in the certificate are valid at the frequency indicated.
- Antenna Parameters with TSL:** The source is mounted in a touch configuration below the center marking of the flat phantom.
- Return Loss:** This parameter is measured with the source positioned under the liquid filled phantom (as described in the measurement condition clause). The Return Loss ensures low reflected power. No uncertainty required.
- SAR measured:** SAR measured at the stated antenna input power.
- SAR normalized:** SAR as measured, normalized to an input power of 1 W at the antenna connector.
- SAR for nominal TSL parameters:** The measured TSL parameters are used to calculate the nominal SAR result.

The reported uncertainty of measurement is stated as the standard uncertainty of measurement multiplied by the coverage factor  $k=2$ , which for a normal distribution corresponds to a coverage probability of approximately 95%.



### Measurement Conditions

DASY system configuration, as far as not given on page 1.

DASY Version	DASY52	V52.10.4
Extrapolation	Advanced Extrapolation	
Phantom	Modular Flat Phantom	
Distance Dipole Center - TSL	10 mm	with Spacer
Zoom Scan Resolution	dx, dy, dz = 5 mm	
Frequency	2450 MHz $\pm$ 1 MHz	

### Head TSL parameters

The following parameters and calculations were applied.

	Temperature	Permittivity	Conductivity
Nominal Head TSL parameters	22.0 °C	39.2	1.80 mho/m
Measured Head TSL parameters	(22.0 $\pm$ 0.2) °C	38.3 $\pm$ 6 %	1.85 mho/m $\pm$ 6 %
Head TSL temperature change during test	< 0.5 °C	----	----

### SAR result with Head TSL

SAR averaged over 1 cm <sup>3</sup> (1 g) of Head TSL	Condition	
SAR measured	250 mW input power	13.4 W/kg
SAR for nominal Head TSL parameters	normalized to 1W	52.6 W/kg $\pm$ 17.0 % (k=2)

SAR averaged over 10 cm <sup>3</sup> (10 g) of Head TSL	condition	
SAR measured	250 mW input power	6.21 W/kg
SAR for nominal Head TSL parameters	normalized to 1W	24.6 W/kg $\pm$ 16.5 % (k=2)

### Body TSL parameters

The following parameters and calculations were applied.

	Temperature	Permittivity	Conductivity
Nominal Body TSL parameters	22.0 °C	52.7	1.95 mho/m
Measured Body TSL parameters	(22.0 $\pm$ 0.2) °C	53.0 $\pm$ 6 %	2.01 mho/m $\pm$ 6 %
Body TSL temperature change during test	< 0.5 °C	----	----

### SAR result with Body TSL

SAR averaged over 1 cm <sup>3</sup> (1 g) of Body TSL	Condition	
SAR measured	250 mW input power	12.5 W/kg
SAR for nominal Body TSL parameters	normalized to 1W	49.3 W/kg $\pm$ 17.0 % (k=2)

SAR averaged over 10 cm <sup>3</sup> (10 g) of Body TSL	condition	
SAR measured	250 mW input power	5.93 W/kg
SAR for nominal Body TSL parameters	normalized to 1W	23.6 W/kg $\pm$ 16.5 % (k=2)



## Appendix (Additional assessments outside the scope of SCS 0108)

### Antenna Parameters with Head TSL

Impedance, transformed to feed point	$51.7 \Omega + 2.1 j\Omega$
Return Loss	- 31.6 dB

### Antenna Parameters with Body TSL

Impedance, transformed to feed point	$49.4 \Omega + 2.5 j\Omega$
Return Loss	- 31.8 dB

### General Antenna Parameters and Design

Electrical Delay (one direction)	1.157 ns
----------------------------------	----------

After long term use with 100W radiated power, only a slight warming of the dipole near the feedpoint can be measured.

The dipole is made of standard semirigid coaxial cable. The center conductor of the feeding line is directly connected to the second arm of the dipole. The antenna is therefore short-circuited for DC-signals. On some of the dipoles, small end caps are added to the dipole arms in order to improve matching when loaded according to the position as explained in the "Measurement Conditions" paragraph. The SAR data are not affected by this change. The overall dipole length is still according to the Standard.

No excessive force must be applied to the dipole arms, because they might bend or the soldered connections near the feedpoint may be damaged.

### Additional EUT Data

Manufactured by	SPEAG
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## DASY5 Validation Report for Head TSL

Date: 07.12.2023

Test Laboratory: SPEAG, Zurich, Switzerland

**DUT: Dipole 2450 MHz; Type: D2450V2; Serial: D2450V2 - SN:715**

Communication System: UID 0 - CW; Frequency: 2450 MHz

Medium parameters used:  $f = 2450$  MHz;  $\sigma = 1.85$  S/m;  $\epsilon_r = 38.3$ ;  $\rho = 1000$  kg/m<sup>3</sup>

Phantom section: Flat Section

Measurement Standard: DASY5 (IEEE/IEC/ANSI C63.19-2011)

DASY52 Configuration:

- Probe: EX3DV4 - SN7349; ConvF(7.96, 7.96, 7.96) @ 2450 MHz; Calibrated: 03.11.2023
- Sensor-Surface: 1.4mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn601; Calibrated: 03.10.2023
- Phantom: Flat Phantom 5.0 (front); Type: QD000P50AA; Serial: 1001
- DASY52 52.10.4(1535); SEMCAD X 14.6.14(7501)

### Dipole Calibration for Head Tissue/Pin=250 mW, d=10mm/Zoom Scan (7x7x7)/Cube 0:

Measurement grid: dx=5mm, dy=5mm, dz=5mm

Reference Value = 116.1 V/m; Power Drift = 0.03 dB

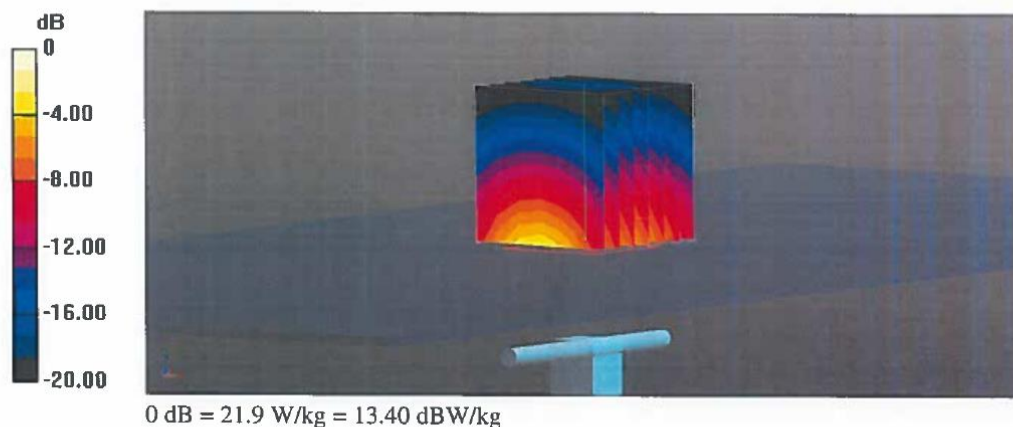
Peak SAR (extrapolated) = 26.5 W/kg

**SAR(1 g) = 13.4 W/kg; SAR(10 g) = 6.21 W/kg**

Smallest distance from peaks to all points 3 dB below = 9 mm

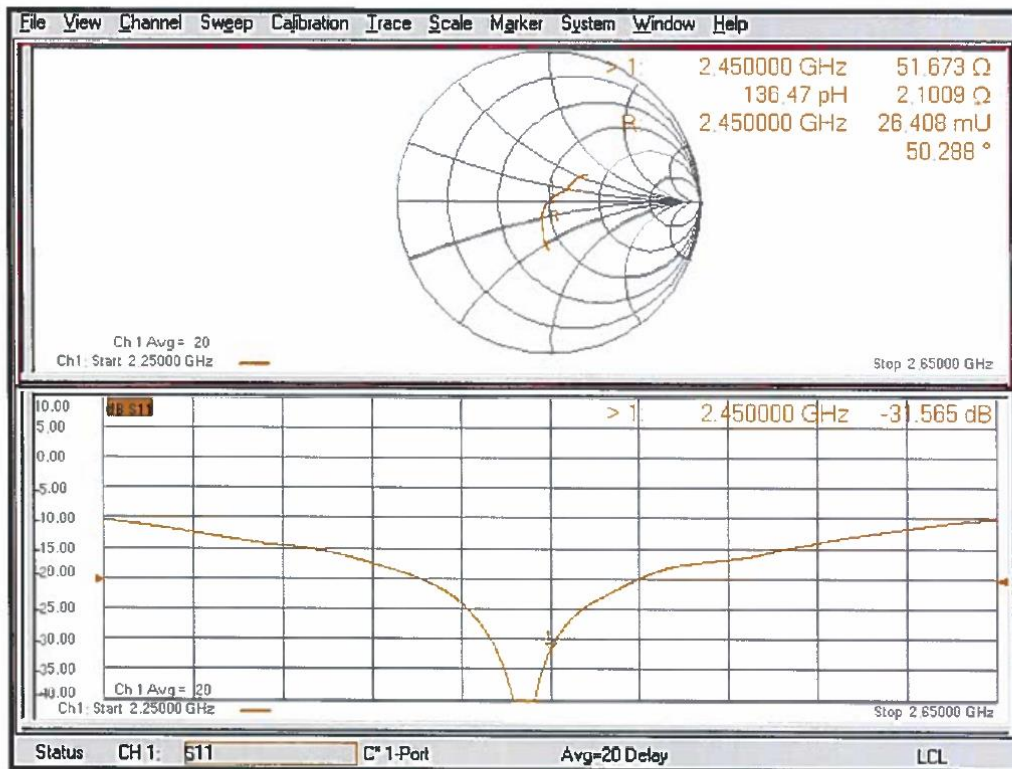
Ratio of SAR at M2 to SAR at M1 = 50.6%

Maximum value of SAR (measured) = 21.9 W/kg





### Impedance Measurement Plot for Head TSL



## DASY5 Validation Report for Body TSL

Date: 06.12.2023

Test Laboratory: SPEAG, Zurich, Switzerland

**DUT: Dipole 2450 MHz; Type: D2450V2; Serial: D2450V2 - SN:715**

Communication System: UID 0 - CW; Frequency: 2450 MHz

Medium parameters used:  $f = 2450$  MHz;  $\sigma = 2.01$  S/m;  $\epsilon_r = 53$ ;  $\rho = 1000$  kg/m<sup>3</sup>

Phantom section: Flat Section

Measurement Standard: DASY5 (IEEE/IEC/ANSI C63.19-2011)

DASY52 Configuration:

- Probe: EX3DV4 - SN7349; ConvF(8.12, 8.12, 8.12) @ 2450 MHz; Calibrated: 03.11.2023
- Sensor-Surface: 1.4mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn601; Calibrated: 03.10.2023
- Phantom: Flat Phantom 5.0 (back); Type: QD 000 P50 AA; Serial: 1002
- DASY52 52.10.4(1535); SEMCAD X 14.6.14(7501)

### Dipole Calibration for Body Tissue/Pin=250 mW, d=10mm/Zoom Scan (7x7x7)/Cube 0:

Measurement grid: dx=5mm, dy=5mm, dz=5mm

Reference Value = 107.3 V/m; Power Drift = 0.08 dB

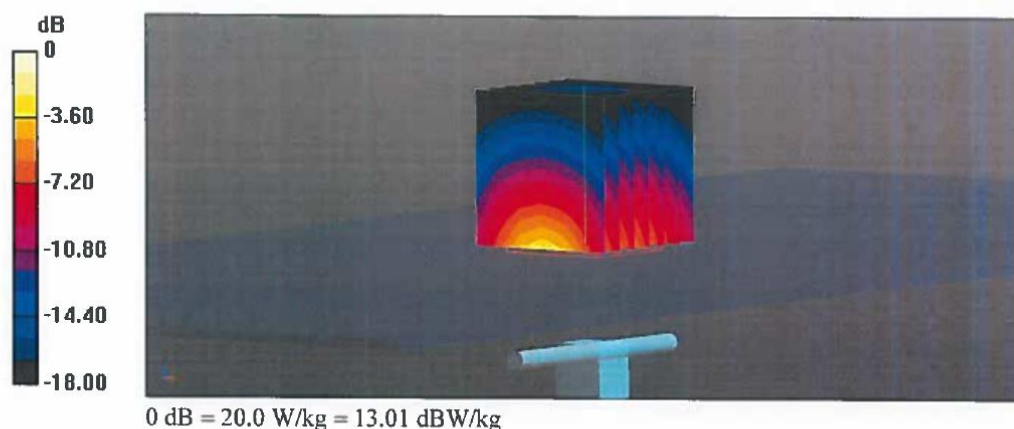
Peak SAR (extrapolated) = 23.3 W/kg

**SAR(1 g) = 12.5 W/kg; SAR(10 g) = 5.93 W/kg**

Smallest distance from peaks to all points 3 dB below = 8.9 mm

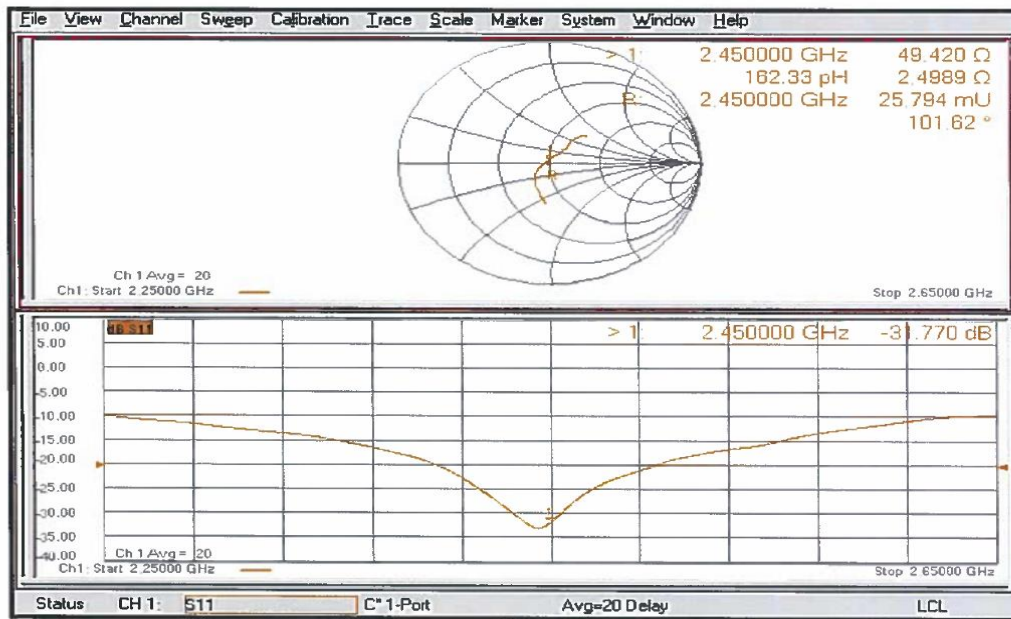
Ratio of SAR at M2 to SAR at M1 = 54.6%

Maximum value of SAR (measured) = 20.0 W/kg





### Impedance Measurement Plot for Body TSL







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Accreditation No.: **SCS 0108**

Client **TÜV SÜD**  
**Fareham, United Kingdom**

Certificate No. **D6.5GHzV2-1071\_Jul24**

## CALIBRATION CERTIFICATE

Object **D6.5GHzV2 - SN:1071**

Calibration procedure(s) **QA CAL-22.v7**  
**Calibration Procedure for SAR Validation Sources between 3-10 GHz**

Calibration date: **July 04, 2024**

This calibration certificate documents the traceability to national standards, which realize the physical units of measurements (SI).  
The measurements and the uncertainties with confidence probability are given on the following pages and are part of the certificate.

All calibrations have been conducted in the closed laboratory facility: environment temperature ( $22 \pm 3$ )°C and humidity < 70%.

Calibration Equipment used (M&TE critical for calibration)

Primary Standards	ID #	Cal Date (Certificate No.)	Scheduled Calibration
Power sensor R&S NRP33T	SN: 100967	28-Mar-24 (No. 217-04038)	Mar-25
Reference 20 dB Attenuator	SN: BH9394 (20k)	26-Mar-24 (No. 217-04048)	Mar-25
Mismatch combination	SN: 84224 / 380D	28-Mar-24 (No. 217-04050)	Mar-25
Reference Probe EX3DV4	SN: 7405	01-Jul-24 (No. EX3-7405_Jul24)	Jul-25
DAE4	SN: 908	27-Mar-24 (No. DAE4-908_Mar24)	Mar-25

Secondary Standards	ID #	Check Date (in house)	Scheduled Check
RF generator Anapico APSIN20G	SN: 827	18-Dec-18 (in house check Jan-24)	In house check: Jan-25
Power sensor NRP-Z23	SN: 100169	10-Jan-19 (in house check Jan-24)	In house check: Jan-25
Power sensor NRP-18T	SN: 100950	28-Sep-22 (in house check Jan-24)	In house check: Jan-25
Network Analyzer Keysight E5083A	SN:MY54504221	31-Oct-19 (in house check Oct-22)	In house check: Oct-25

Calibrated by:	Name <b>Aldona Georgiadou</b>	Function <b>Laboratory Technician</b>	Signature 
Approved by:	Name <b>Sven Kühn</b>	Function <b>Technical Manager</b>	Signature 

Issued: July 8, 2024

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Accreditation No.: **SCS 0108**

**Glossary:**

TSL	tissue simulating liquid
ConvF	sensitivity in TSL / NORM x,y,z
N/A	not applicable or not measured

**Calibration is Performed According to the Following Standards:**

- a) IEC/IEEE 62209-1528, "Measurement Procedure For The Assessment Of Specific Absorption Rate Of Human Exposure To Radio Frequency Fields From Hand-Held And Body-Worn Wireless Communication Devices - Part 1528: Human Models, Instrumentation And Procedures (Frequency Range Of 4 MHz To 10 GHz)", October 2020.

**Additional Documentation:**

- b) DASY System Handbook

**Methods Applied and Interpretation of Parameters:**

- **Measurement Conditions:** Further details are available from the Validation Report at the end of the certificate. All figures stated in the certificate are valid at the frequency indicated.
- **Antenna Parameters with TSL:** The dipole is mounted with the spacer to position its feed point exactly below the center marking of the flat phantom section, with the arms oriented parallel to the body axis.
- **Feed Point Impedance and Return Loss:** These parameters are measured with the dipole positioned under the liquid filled phantom. The Return Loss ensures low reflected power. No uncertainty required.
- **SAR measured:** SAR measured at the stated antenna input power.
- **SAR normalized:** SAR as measured, normalized to an input power of 1 W at the antenna connector.
- **SAR for nominal TSL parameters:** The measured TSL parameters are used to calculate the nominal SAR result.
- **The absorbed power density (APD):** The absorbed power density is evaluated according to Samaras T, Christ A, Kuster N, "Compliance assessment of the epithelial or absorbed power density above 6 GHz using SAR measurement systems", Bioelectromagnetics, 2021 (submitted). The additional evaluation uncertainty of 0.55 dB (rectangular distribution) is considered.

The reported uncertainty of measurement is stated as the standard uncertainty of measurement multiplied by the coverage factor  $k=2$ , which for a normal distribution corresponds to a coverage probability of approximately 95%.



### Measurement Conditions

DASY system configuration, as far as not given on page 1.

<b>DASY Version</b>	DASY6	V16.2
<b>Extrapolation</b>	Advanced Extrapolation	
<b>Phantom</b>	Modular Flat Phantom	
<b>Distance Dipole Center - TSL</b>	5 mm	with Spacer
<b>Zoom Scan Resolution</b>	dx, dy = 3.4 mm, dz = 1.4 mm	Graded Ratio = 1.4 (Z direction)
<b>Frequency</b>	6500 MHz $\pm$ 1 MHz	

### Head TSL parameters

The following parameters and calculations were applied.

	Temperature	Permittivity	Conductivity
<b>Nominal Head TSL parameters</b>	22.0 °C	34.5	6.07 mho/m
<b>Measured Head TSL parameters</b>	(22.0 $\pm$ 0.2) °C	35.8 $\pm$ 6 %	6.26 mho/m $\pm$ 6 %
<b>Head TSL temperature change during test</b>	< 0.5 °C	---	---

### SAR result with Head TSL

<b>SAR averaged over 1 cm<sup>3</sup> (1 g) of Head TSL</b>	Condition	
SAR measured	100 mW input power	29.5 W/kg
SAR for nominal Head TSL parameters	normalized to 1W	297 W/kg $\pm$ 24.7 % (k=2)

<b>SAR averaged over 8 cm<sup>3</sup> (8 g) of Head TSL</b>	Condition	
SAR measured	100 mW input power	6.57 W/kg
SAR for nominal Head TSL parameters	normalized to 1W	66.3 W/kg $\pm$ 24.4 % (k=2)

<b>SAR averaged over 10 cm<sup>3</sup> (10 g) of Head TSL</b>	condition	
SAR measured	100 mW input power	5.37 W/kg
SAR for nominal Head TSL parameters	normalized to 1W	54.2 W/kg $\pm$ 24.4 % (k=2)



## Appendix (Additional assessments outside the scope of SCS 0108)

### Antenna Parameters with Head TSL

Impedance, transformed to feed point	49.5 $\Omega$ - 1.1 j $\Omega$
Return Loss	- 38.4 dB

### APD (Absorbed Power Density)

APD averaged over 1 cm <sup>2</sup>	Condition	
APD measured	100 mW input power	297 W/m <sup>2</sup>
APD measured	normalized to 1W	2970 W/m <sup>2</sup> $\pm$ 29.2 % (k=2)

APD averaged over 4 cm <sup>2</sup>	condition	
APD measured	100 mW input power	131 W/m <sup>2</sup>
APD measured	normalized to 1W	1310 W/m <sup>2</sup> $\pm$ 28.9 % (k=2)

\*The reported APD values have been derived using the psSAR1g and psSAR8g.

### General Antenna Parameters and Design

After long term use with 100W radiated power, only a slight warming of the dipole near the feedpoint can be measured.

The dipole is made of standard semirigid coaxial cable. The center conductor of the feeding line is directly connected to the second arm of the dipole. The antenna is therefore short-circuited for DC-signals. On some of the dipoles, small end caps are added to the dipole arms in order to improve matching when loaded according to the position as explained in the "Measurement Conditions" paragraph. The SAR data are not affected by this change. The overall dipole length is still according to the Standard.

No excessive force must be applied to the dipole arms, because they might bend or the soldered connections near the feedpoint may be damaged.

### Additional EUT Data

Manufactured by	SPEAG
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DASY6 Validation Report for Head TSL

Measurement Report for D6.5GHz-1071, UID 0 -, Channel 6500 (6500.0MHz)

Device under Test Properties

Name, Manufacturer	Dimensions [mm]	IMEI	DUT Type
D6.5GHz	16.0 x 6.0 x 300.0	SN: 1071	-

Exposure Conditions

Phantom Section, TSL	Position, Test Distance [mm]	Band	Group, UID	Frequency [MHz]	Conversion Factor	TSL Cond. [S/m]	TSL Permittivity
Flat, HSL	5.00	Band	CW,	6500	5.42	6.26	35.8

Hardware Setup

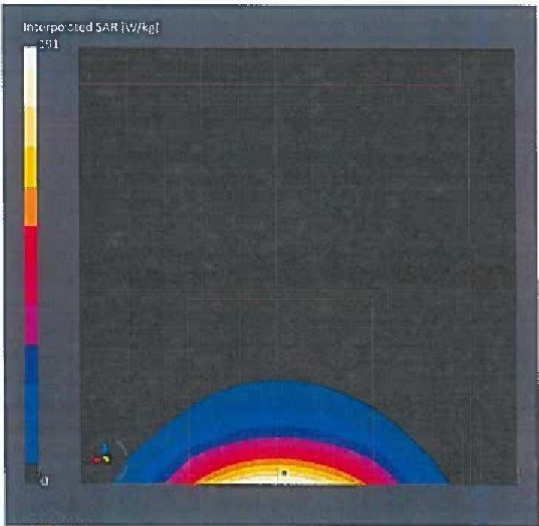
Phantom	TSL	Probe, Calibration Date	DAE, Calibration Date
MFP V8.0 Center - 1182	HBBL600-10000V6	EX3DV4 - SN7405, 2024-07-01	DAE4 Sn908, 2024-03-27

Scan Setup

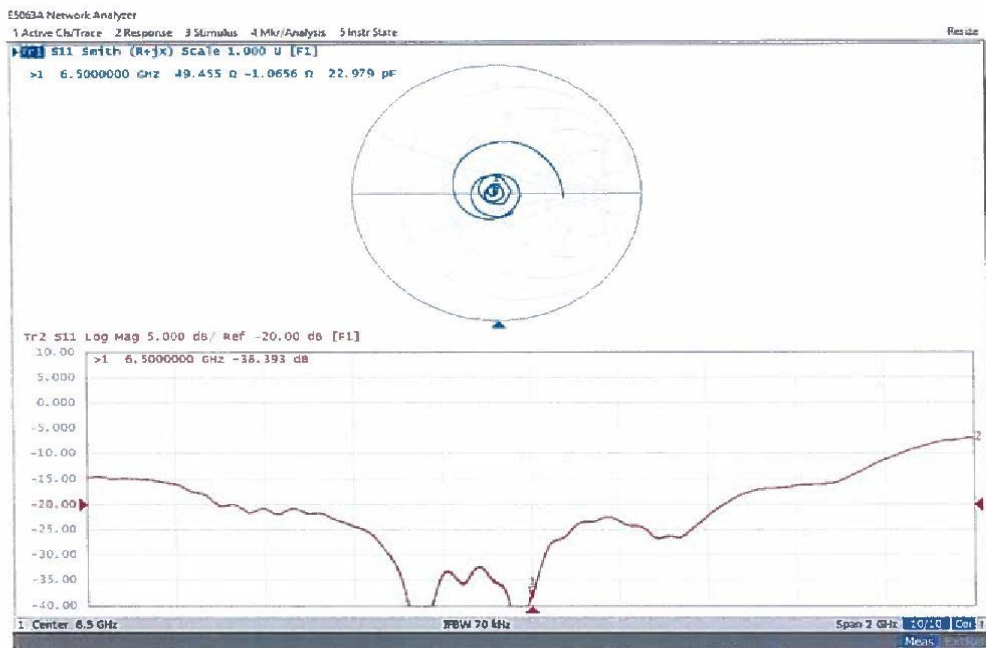
	Zoom Scan
Grid Extents [mm]	22.0 x 22.0 x 22.0
Grid Steps [mm]	3.4 x 3.4 x 1.4
Sensor Surface [mm]	1.4
Graded Grid	Yes
Grading Ratio	1.4
MAIA	N/A
Surface Detection	VMS + 6p
Scan Method	Measured

Measurement Results

	Zoom Scan
Date	2024-07-04, 13:30
psSAR1g [W/Kg]	29.5
psSAR8g [W/Kg]	6.57
psSAR10g [W/Kg]	5.37
Power Drift [dB]	0.03
Power Scaling	Disabled
Scaling Factor [dB]	
TSL Correction	No correction
M2/M1 [%]	54.3
Dist 3dB Peak [mm]	4.8



## Impedance Measurement Plot for Head TSL





**Calibration Laboratory of**  
**Schmid & Partner**  
**Engineering AG**  
Zeughausstrasse 43, 8004 Zurich, Switzerland



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Multilateral Agreement for the recognition of calibration certificates

Accreditation No.: **SCS 0108**

Client **TÜV SÜD**  
Fareham, United Kingdom

Certificate No. **5G-Veri10-1053\_Oct24**

## CALIBRATION CERTIFICATE

Object **5G Verification Source 10 GHz - SN: 1053**

Calibration procedure(s) **QA CAL-45.v5**  
Calibration procedure for sources in air above 6 GHz

Calibration date: **October 10, 2024**

This calibration certificate documents the traceability to national standards, which realize the physical units of measurements (SI).  
The measurements and the uncertainties with confidence probability are given on the following pages and are part of the certificate.

All calibrations have been conducted in the closed laboratory facility: environment temperature  $(22 \pm 3)^{\circ}\text{C}$  and humidity  $< 70\%$ .

Calibration Equipment used (M&TE critical for calibration)

Primary Standards	ID #	Cal Date (Certificate No.)	Scheduled Calibration
Reference Probe EUMmWV3	SN: 9374	28-Aug-24 (No. EUMm-9374_Aug24)	Aug-25
DAE4ip	SN: 1602	08-Nov-23 (No. DAE4ip-1602_Nov23)	Nov-24
Secondary Standards	ID #	Check Date (in house)	Scheduled Check
RF generator R&S SMF100A	SN: 100184	29-Nov-23 (in house check Nov-23)	In house check: Nov-24
Power sensor R&S NRP18S-10	SN: 101258	29-Nov-23 (in house check Nov-23)	In house check: Nov-24
Network Analyzer Keysight E5063A	SN: MY54504221	31-Oct-19 (in house check Sep-24)	In house check: Sep-26

Calibrated by:	Name Joanna Lieshaj	Function Laboratory Technician	Signature 
Approved by:	Sven Kühn	Technical Manager	

Issued: October 11, 2024

This calibration certificate shall not be reproduced except in full without written approval of the laboratory.



**Calibration Laboratory of  
Schmid & Partner  
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Multilateral Agreement for the recognition of calibration certificates

Accreditation No.: **SCS 0108**

## Glossary

**CW** Continuous wave

## Calibration is Performed According to the Following Standards

- Internal procedure QA CAL-45, Calibration procedure for sources in air above 6 GHz.
- IEC/IEEE 63195-1, "Assessment of power density of human exposure to radio frequency fields from wireless devices in close proximity to the head and body (frequency range of 6 GHz to 300 GHz)", May 2022

## Methods Applied and Interpretation of Parameters

- *Coordinate System:* z-axis in the waveguide horn boresight, x-axis is in the direction of the E-field, y-axis normal to the others in the field scanning plane parallel to the horn flare and horn flange.
- *Measurement Conditions:* (1) 10 GHz: The radiated power is the forward power to the horn antenna minus ohmic and mismatch loss. The forward power is measured prior and after the measurement with a power sensor. During the measurements, the horn is directly connected to the cable and the antenna ohmic and mismatch losses are determined by far-field measurements. (2) 30, 45, 60 and 90 GHz: The verification sources are switched on for at least 30 minutes. Absorbers are used around the probe cub and at the ceiling to minimize reflections.
- *Horn Positioning:* The waveguide horn is mounted vertically on the flange of the waveguide source to allow vertical positioning of the EUmmW probe during the scan. The plane is parallel to the phantom surface. Probe distance is verified using mechanical gauges positioned on the flare of the horn.
- *E-field distribution:* E field is measured in two x-y-plane (10mm, 10mm +  $\lambda/4$ ) with a vectorial E-field probe. The E-field value stated as calibration value represents the E-field-maxima and the averaged (1cm<sup>2</sup> and 4cm<sup>2</sup>) power density values at 10mm in front of the horn.
- *Field polarization:* Above the open horn, linear polarization of the field is expected. This is verified graphically in the field representation.

## Calibrated Quantity

- Local peak E-field (V/m) and average of peak spatial components of the poynting vector (W/m<sup>2</sup>) averaged over the surface area of 1 cm<sup>2</sup> and 4cm<sup>2</sup> at the nominal operational frequency of the verification source. Both square and circular averaging results are listed.

The reported uncertainty of measurement is stated as the standard uncertainty of measurement multiplied by the coverage factor k=2, which for a normal distribution corresponds to a coverage probability of approximately 95%.





### Measurement Conditions

DASY system configuration, as far as not given on page 1.

DASY Version	DASY8 Module mmWave	V3.2
Phantom	5G Phantom	
Distance Horn Aperture - plane	10 mm	
Number of measured planes	2 (10mm, 10mm + $\lambda/4$ )	
Frequency	10 GHz $\pm$ 10 MHz	

### Calibration Parameters, 10 GHz

#### Circular Averaging

Distance Horn Aperture to Measured Plane	$Prad^I$ (mW)	Max E-field (V/m)	Uncertainty (k = 2)	Avg Power Density Avg (psPDn+, psPDtot+, psPDmod+) (W/m <sup>2</sup> )		Uncertainty (k = 2)
				1 cm <sup>2</sup>	4 cm <sup>2</sup>	
10 mm	93.3	153	1.27 dB	61.1	57.2	1.28 dB

Distance Horn Aperture to Measured Plane	$Prad^I$ (mW)	Max E-field (V/m)	Uncertainty (k = 2)	Power Density psPDn+, psPDtot+, psPDmod+ (W/m <sup>2</sup> )		Uncertainty (k = 2)
				1 cm <sup>2</sup>	4 cm <sup>2</sup>	
10 mm	93.3	153	1.27 dB	60.8, 61.1, 61.3	56.9, 57.2, 57.4	1.28 dB

#### Square Averaging

Distance Horn Aperture to Measured Plane	$Prad^I$ (mW)	Max E-field (V/m)	Uncertainty (k = 2)	Avg Power Density Avg (psPDn+, psPDtot+, psPDmod+) (W/m <sup>2</sup> )		Uncertainty (k = 2)
				1 cm <sup>2</sup>	4 cm <sup>2</sup>	
10 mm	93.3	153	1.27 dB	61.0	57.0	1.28 dB

Distance Horn Aperture to Measured Plane	$Prad^I$ (mW)	Max E-field (V/m)	Uncertainty (k = 2)	Power Density psPDn+, psPDtot+, psPDmod+ (W/m <sup>2</sup> )		Uncertainty (k = 2)
				1 cm <sup>2</sup>	4 cm <sup>2</sup>	
10 mm	93.3	153	1.27 dB	60.8, 61.0, 61.3	56.7, 57.0, 57.3	1.28 dB

#### Max Power Density

Distance Horn Aperture to Measured Plane	$Prad^I$ (mW)	Max E-field (V/m)	Uncertainty (k = 2)	Max Power Density Sn, Stot,  Stot  (W/m <sup>2</sup> )	Uncertainty (k = 2)
10 mm	93.3	153	1.27 dB	62.4, 62.6, 62.8	1.28 dB

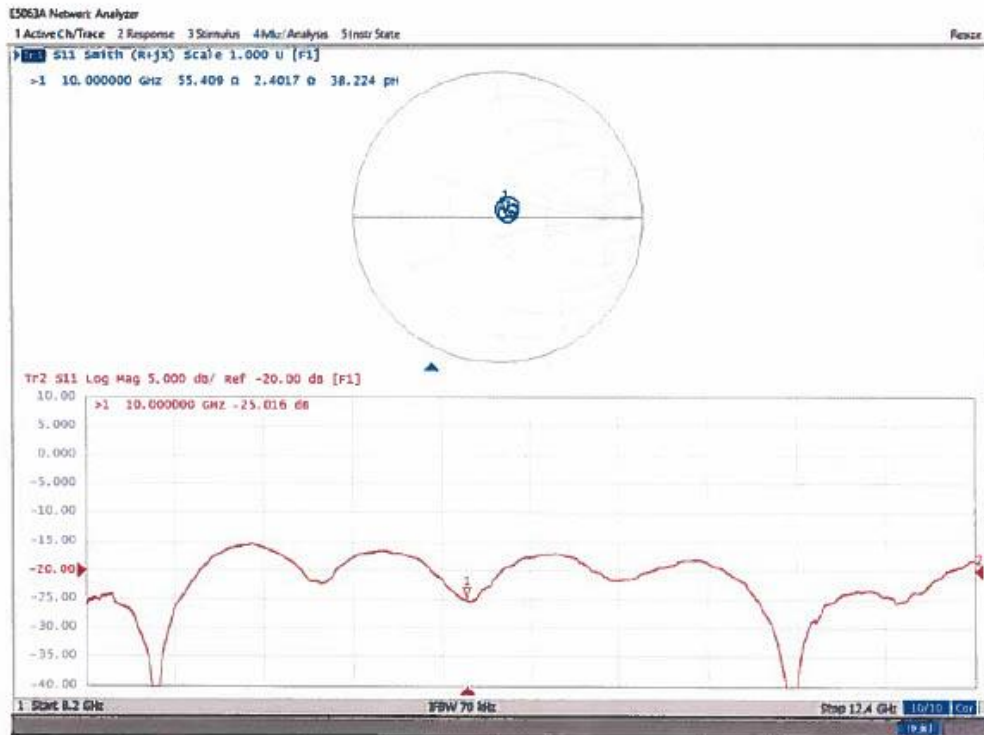
<sup>I</sup> Assessed ohmic and mismatch loss plus numerical offset: 0.30 dB

## Appendix (Additional assessments outside the scope of SCS 0108)

### Antenna Parameters

Impedance, transformed to feed point	$55.4 \Omega + 2.4 j\Omega$
Return Loss	- 25.0 dB

### Impedance Measurement Plot





DASY Report

Measurement Report for 5G Verification Source 10 GHz, UID 0 -, Channel 10000 (10000.0MHz)

Device under Test Properties

Name, Manufacturer	Dimensions [mm]	IMEI	DUT Type
5G Verification Source 10 GHz	100.0 x 100.0 x 172.0	SN: 1053	-

Exposure Conditions

Phantom Section	Position, Test Distance [mm]	Band	Group,	Frequency [MHz], Channel Number	Conversion Factor
5G-	10.0 mm	Validation band	CW	10000.0, 10000	1.0

Hardware Setup

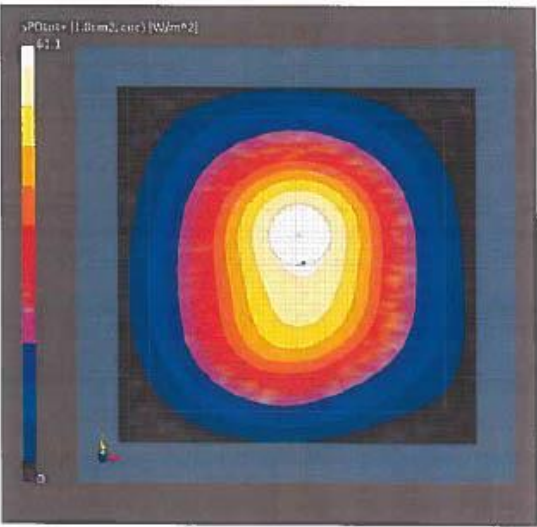
Phantom	Medium	Probe, Calibration Date	DAE, Calibration Date
mmWave Phantom - 1002	Air	EUmWV3 - SN9374_F1-55GHz, 2024-08-28	DAE4ip Sn1602, 2023-11-08

Scan Setup

Sensor Surface [mm]	5G Scan
MAIA	10.0 MAIA not used

Measurement Results

Date	5G Scan
Avg. Area [cm²]	2024-10-10, 16:38
Avg. Type	1.00
psPDn+ [W/m²]	Circular Averaging
psPDtot+ [W/m²]	60.8
psPDmod+ [W/m²]	61.1
Max[Sn] [W/m²]	61.3
Max[Stot] [W/m²]	62.4
Max[ Stot ] [W/m²]	62.6
E <sub>max</sub> [V/m]	62.8
Power Drift [dB]	153
	-0.00





DASY Report

Measurement Report for 5G Verification Source 10 GHz, UID 0 -, Channel 10000 (10000.0MHz)

Device under Test Properties

Name, Manufacturer	Dimensions [mm]	IMEI	DUT Type
5G Verification Source 10 GHz	100.0 x 100.0 x 172.0	SN: 1Q53	-

Exposure Conditions

Phantom Section	Position, Test Distance [mm]	Band	Group,	Frequency [MHz], Channel Number	Conversion Factor
SG -	10.0 mm	Validation band	CW	10000.0, 10000	1.0

Hardware Setup

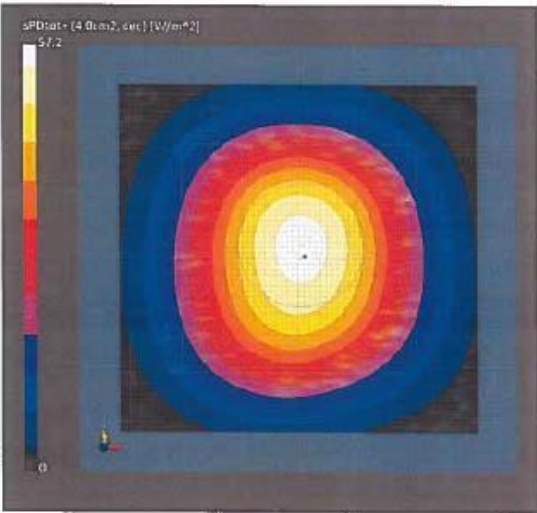
Phantom	Medium	Probe, Calibration Date	DAE, Calibration Date
mmWave Phantom - 1002	Air	EU mmWV3 - SN9374_F1-55GHz, 2024-08-28	DAE4ip Sn.1602, 2023-11-08

Scan Setup

Sensor Surface [mm]	5G Scan
MAIA	10.0 MAIA not used

Measurement Results

Date	5G Scan
Avg. Area [cm²]	2024-10-10, 16:38
Avg. Type	4.00
psPDn+ [W/m²]	Circular Averaging
psPDtot+ [W/m²]	56.9
psPDmod+ [W/m²]	57.2
Max(Sn) [W/m²]	57.4
Max(Stot) [W/m²]	62.4
Max( Stot ) [W/m²]	62.6
E <sub>max</sub> [V/m]	62.8
Power Drift [dB]	153
	-0.00







DASY Report

Measurement Report for 5G Verification Source 10 GHz, UID 0 -, Channel 10000 (10000.0MHz)

Device under Test Properties

Name, Manufacturer	Dimensions [mm]	IMEI	DUT Type
5G Verification Source 10 GHz	100.0 x 100.0 x 172.0	SN: 1053	-

Exposure Conditions

Phantom Section	Position, Test Distance [mm]	Band	Group,	Frequency [MHz], Channel Number	Conversion Factor
5G -	10.0 mm	Validation band	CW	10000.0, 10000	1.0

Hardware Setup

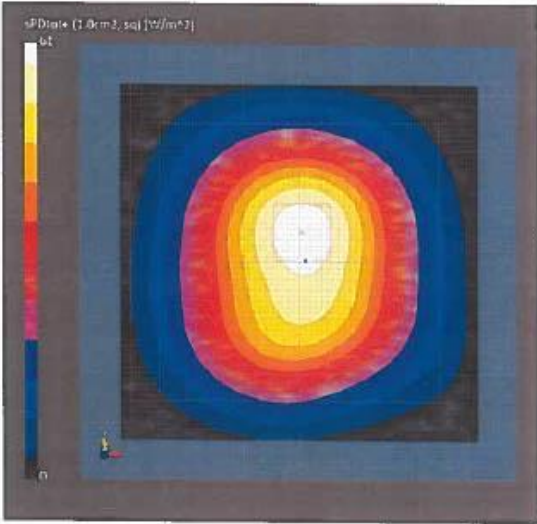
Phantom	Medium	Probe, Calibration Date	DAE, Calibration Date
mmWave Phantom - 1002	Air	EUmmWV3 - 5N9374_F1-55GHz, 2024-08-28	DAE4ip Sn1602, 2023-11-08

Scan Setup

Sensor Surface [mm]	5G Scan
MAIA	10.0
	MAIA not used

Measurement Results

Date	5G Scan
Avg. Area [cm²]	2024-10-10, 16:38
Avg. Type	1.00
psPDn+ [W/m²]	Square Averaging
psPDtot+ [W/m²]	60.8
psPDmod+ [W/m²]	61.0
Max(Sn) [W/m²]	61.3
Max(Stot) [W/m²]	62.4
Max( Stot ) [W/m²]	62.6
E <sub>max</sub> [V/m]	62.8
Power Drift [dB]	153
	-0.00



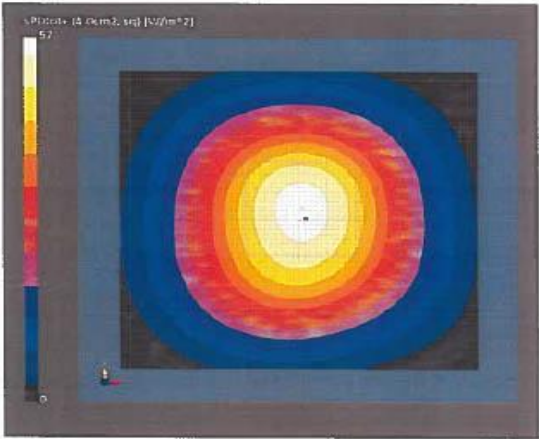


DASY Report

Measurement Report for 5G Verification Source 10 GHz, UID 0 -, Channel 10000 (10000.0MHz)

Device under Test Properties					
Name, Manufacturer		Dimensions [mm]	IMEI	DUT Type	
5G Verification Source 10 GHz		100.0 x 100.0 x 172.0	SN: 1053	-	
Exposure Conditions					
Phantom Section	Position, Test Distance [mm]	Band	Group,	Frequency [MHz], Channel Number	Conversion Factor
5G -	10.0 mm	Validation band	CW	10000.0, 10000	1.0
Hardware Setup					
Phantom	Medium	Probe, Calibration Date		DAE, Calibration Date	
mmWave Phantom - 1002	Air	EUMmWV3 - SN9374_F1-55GHz, 2024-08-28		DAE4ip Sn1602, 2023-11-08	

Scan Setup		Measurement Results	
Sensor Surface [mm]	5G Scan	Date	5G Scan
MAIA	10.0	Avg. Area [cm²]	2024-10-10, 16:38
	MAIA not used	Avg. Type	4.00
		psPDn+ [W/m²]	Square Averaging
		psPDtot+ [W/m²]	56.7
		psPDmod+ [W/m²]	57.0
		Max[Sn] [W/m²]	57.3
		Max[Stot] [W/m²]	62.4
		Max[ Stot ] [W/m²]	62.6
		Emax [V/m]	62.8
		Power Drift [dB]	153
			-0.00





## **ANNEX C**

### **TEST RESULTS**



**Measurement Report for A3240, BACK, ISM 2.4 GHz Band, IEEE 802.15.1 Bluetooth (GFSK, DH5), Channel 0 (2402.0 MHz)**

**Device Under Test Properties**

Model, Manufacturer	Dimensions [mm]	IMEI	DUT Type
A3240,	302.0 x 215.0 x 14.0		Laptop

**Exposure Conditions**

Phantom Section, TSL	Position, Test Distance [mm]	Band	Group, UID	Frequency [MHz], Channel Number	Conversion Factor	TSL Conductivity [S/m]	TSL Permittivity
Flat, HSL	BACK, 0.00	ISM 2.4 GHz Band	Bluetooth, 10032-CAA	2402.0, 0	7.41	1.78	40.6

**Hardware Setup**

Phantom	TSL, Measured Date	Probe, Calibration Date	DAE, Calibration Date
ELI V8.0 (20deg probe tilt) - 2203	HBBL-600-10000 DAK 3.5 Head 20.92 deg.C 2024-Oct-30 SYS6 B6.prn, 2024-Oct-30	EX3DV4 - SN7809, 2024-05-13	DAE4ip Sn1789, 2024-05-03

**Scans Setup**

	Area Scan	Zoom Scan
Grid Extents [mm]	140.0 x 200.0	30.0 x 30.0 x 30.0
Grid Steps [mm]	10.0 x 10.0	5.0 x 5.0 x 1.5
Sensor Surface [mm]	3.0	1.4
Graded Grid	n/a	Yes
Grading Ratio	n/a	1.5
MAIA	Y	N/A
Surface Detection	VMS + 6p	VMS + 6p
Scan Method	Measured	Measured

**Measurement Results**

	Area Scan	Zoom Scan
Date	2024-10-30, 18:31	2024-10-30, 18:38
psSAR1g [W/Kg]	0.195	0.205
psSAR10g [W/Kg]	0.086	0.081
Power Drift [dB]	0.02	0.02
Power Scaling	Disabled	Disabled
Scaling Factor [dB]		
TSL Correction	Positive only	Positive only
M2/M1 [%]		70.7
Dist 3dB Peak [mm]		6.5



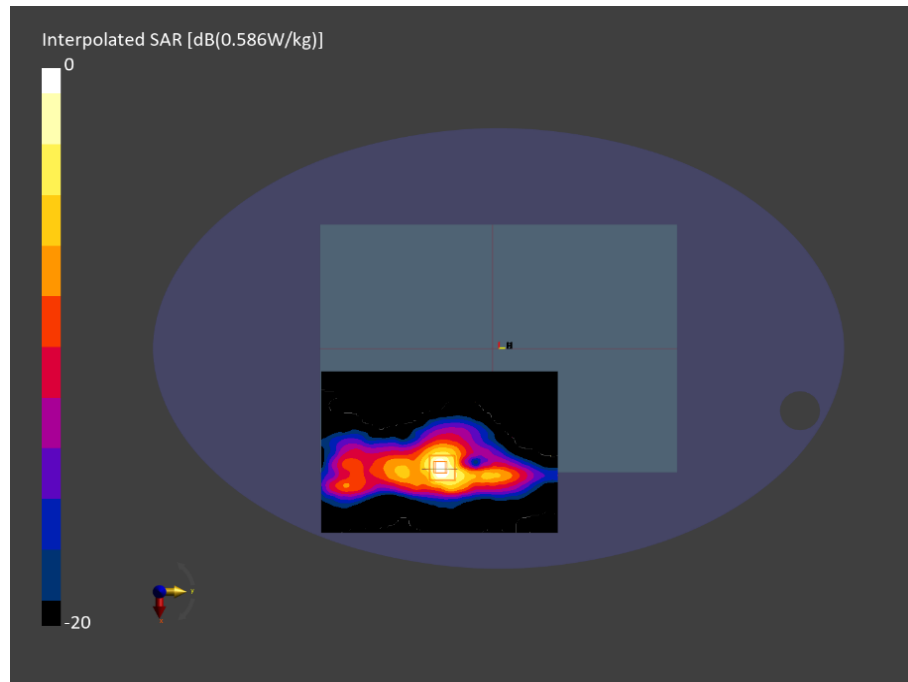


Figure C.01: SAR testing results for the A3240 at 2402 MHz Core 0



**Measurement Report for A3240, BACK, ISM 2.4 GHz Band, IEEE 802.15.1 Bluetooth (GFSK, DH5), Channel 78 (2480.0 MHz)**

**Device Under Test Properties**

Model, Manufacturer	Dimensions [mm]	IMEI	DUT Type
A3240,	302.0 x 215.0 x 14.0		Laptop

**Exposure Conditions**

Phantom Section, TSL	Position, Test Distance [mm]	Band	Group, UID	Frequency [MHz], Channel Number	Conversion Factor	TSL Conductivity [S/m]	TSL Permittivity
Flat, HSL	BACK, 0.00	ISM 2.4 GHz Band	Bluetooth, 10032-CAA	2480.0, 78	7.41	1.84	40.5

**Hardware Setup**

Phantom	TSL, Measured Date	Probe, Calibration Date	DAE, Calibration Date
ELI V8.0 (20deg probe tilt) - 2203	HBBL-600-10000 DAK 3.5 Head 20.92 deg.C 2024-Oct-30 SYS6 B6.prn, 2024-Oct-30	EX3DV4 - SN7809, 2024-05-13	DAE4ip Sn1789, 2024-05-03

**Scans Setup**

	Area Scan	Zoom Scan
Grid Extents [mm]	140.0 x 200.0	30.0 x 30.0 x 30.0
Grid Steps [mm]	10.0 x 10.0	5.0 x 5.0 x 1.5
Sensor Surface [mm]	3.0	1.4
Graded Grid	n/a	Yes
Grading Ratio	n/a	1.5
MAIA	Y	N/A
Surface Detection	VMS + 6p	VMS + 6p
Scan Method	Measured	Measured

**Measurement Results**

	Area Scan	Zoom Scan
Date	2024-10-30, 19:53	2024-10-30, 20:01
psSAR1g [W/Kg]	0.204	0.226
psSAR10g [W/Kg]	0.094	0.092
Power Drift [dB]	0.02	0.01
Power Scaling	Disabled	Disabled
Scaling Factor [dB]		
TSL Correction	Positive only	Positive only
M2/M1 [%]		72.3
Dist 3dB Peak [mm]		7.0

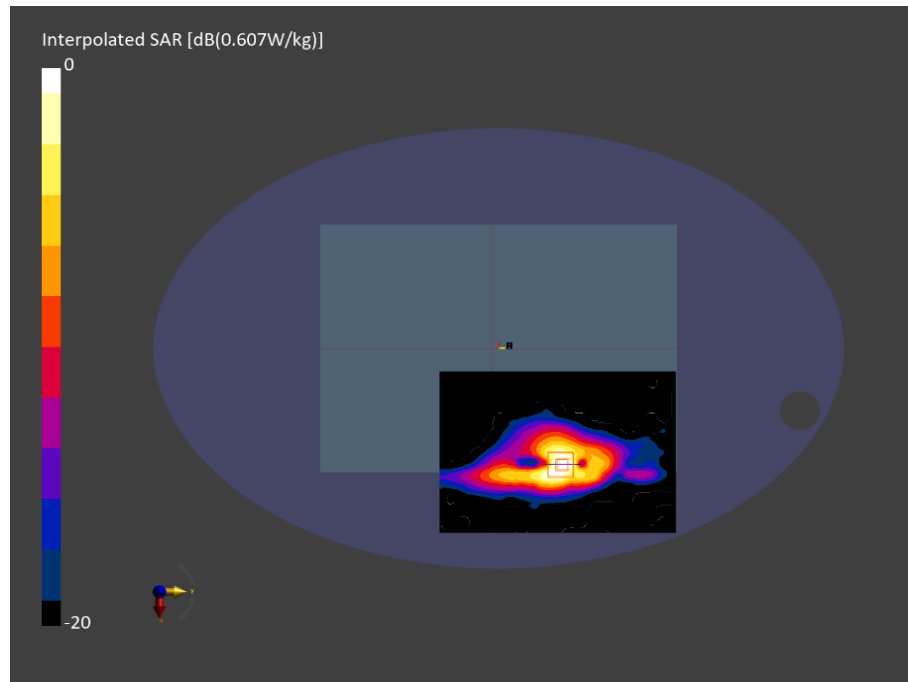


Figure C.02: SAR testing results for the A3240 at 2480 MHz Core 1



**Measurement Report for A3240, BACK, Custom Band, IEEE 802.15.1 Bluetooth (GFSK, DH5), Channel 5200000 (5200.000 MHz)**

**Device Under Test Properties**

Model, Manufacturer	Dimensions [mm]	IMEI	DUT Type
A3240,	302.0 x 215.0 x 14.0		Laptop

**Exposure Conditions**

Phantom Section, TSL	Position, Test Distance [mm]	Band	Group, UID	Frequency [MHz], Channel Number	Conversion Factor	TSL Conductivity [S/m]	TSL Permittivity
Flat, Head Simulating Liquid	BACK, 0.00	Custom Band	CW, 10032-CAA	5200.000, 5200000	5.18	4.41	34.9

**Hardware Setup**

Phantom	TSL, Measured Date	Probe, Calibration Date	DAE, Calibration Date
ELI V8.0 (20deg probe tilt) - 2202	HBBL-600-10000 DAK 3.5 Head 21.23 deg.C 2024-Oct-30 SYS5 B5, 2024-10-30	EX3DV4 - SN7805, 2024-02-14	DAE4ip Sn1785, 2024-02-13

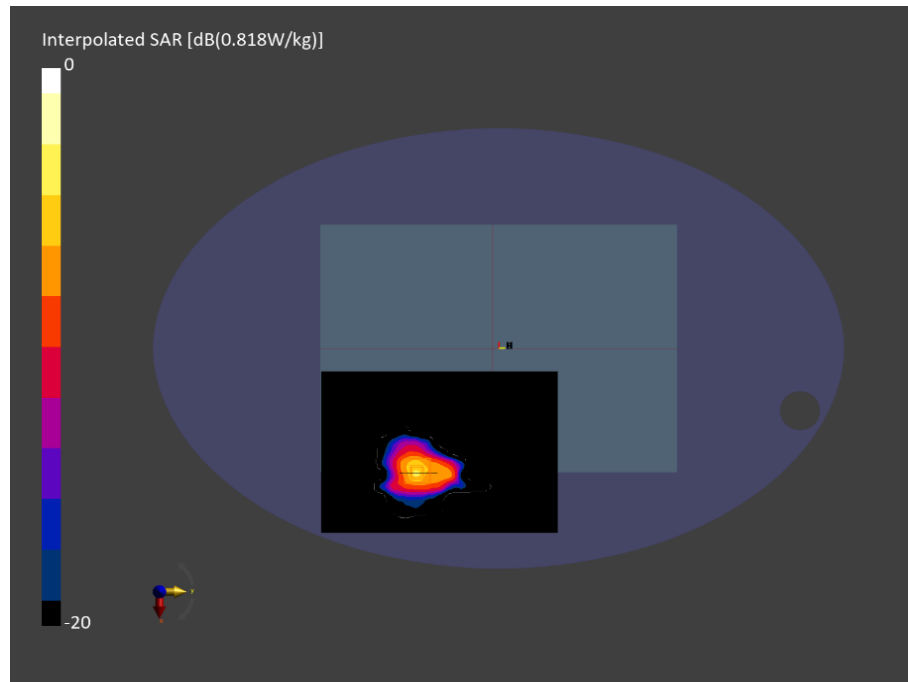
**Scans Setup**

	Area Scan	Zoom Scan
Grid Extents [mm]	140.0 x 200.0	22.0 x 22.0 x 22.0
Grid Steps [mm]	10.0 x 10.0	4.0 x 4.0 x 1.4
Sensor Surface [mm]	3.0	1.4
Graded Grid	N/A	Yes
Grading Ratio	N/A	1.4
MAIA	Y	Y
Surface Detection	VMS + 6p	VMS + 6p
Scan Method	Measured	Measured

**Measurement Results**

	Area Scan	Zoom Scan
Date	2024-10-31, 04:58	2024-10-31, 05:09
psSAR1g [W/Kg]	0.191	0.211
psSAR10g [W/Kg]	0.072	0.073
Power Drift [dB]	-0.03	-0.19
Power Scaling	Disabled	Disabled
Scaling Factor [dB]		
TSL Correction	Positive only	Positive only
M2/M1 [%]		59.7
Dist 3dB Peak [mm]		9.2





**Figure C.03: SAR testing results for the A3240 at 5200 MHz Core 0**



**Measurement Report for A3240, BACK, Custom Band, IEEE 802.15.1 Bluetooth (GFSK, DH5), Channel 5250000 (5250.000 MHz)**

**Device Under Test Properties**

Model, Manufacturer	Dimensions [mm]	IMEI	DUT Type
A3240,	302.0 x 215.0 x 14.0		Laptop

**Exposure Conditions**

Phantom Section, TSL	Position, Test Distance [mm]	Band	Group, UID	Frequency [MHz], Channel Number	Conversion Factor	TSL Conductivity [S/m]	TSL Permittivity
Flat, Head Simulating Liquid	BACK, 0.00	Custom Band	CW, 10032-CAA	5250.000, 5250000	5.18	4.47	34.8

**Hardware Setup**

Phantom	TSL, Measured Date	Probe, Calibration Date	DAE, Calibration Date
ELI V8.0 (20deg probe tilt) - 2202	HBBL-600-10000 DAK 3.5 Head 21.23 deg.C 2024-Oct-30 SYS5 B5, 2024-10-30	EX3DV4 - SN7805, 2024-02-14	DAE4ip Sn1785, 2024-02-13

**Scans Setup**

	Area Scan	Zoom Scan
Grid Extents [mm]	140.0 x 200.0	22.0 x 22.0 x 22.0
Grid Steps [mm]	10.0 x 10.0	4.0 x 4.0 x 1.4
Sensor Surface [mm]	3.0	1.4
Graded Grid	N/A	Yes
Grading Ratio	N/A	1.4
MAIA	Y	Y
Surface Detection	VMS + 6p	VMS + 6p
Scan Method	Measured	Measured

**Measurement Results**

	Area Scan	Zoom Scan
Date	2024-10-31, 06:23	2024-10-31, 06:32
psSAR1g [W/Kg]	0.182	0.196
psSAR10g [W/Kg]	0.073	0.068
Power Drift [dB]	-0.02	-0.01
Power Scaling	Disabled	Disabled
Scaling Factor [dB]		
TSL Correction	Positive only	Positive only
M2/M1 [%]		61.3
Dist 3dB Peak [mm]		8.0

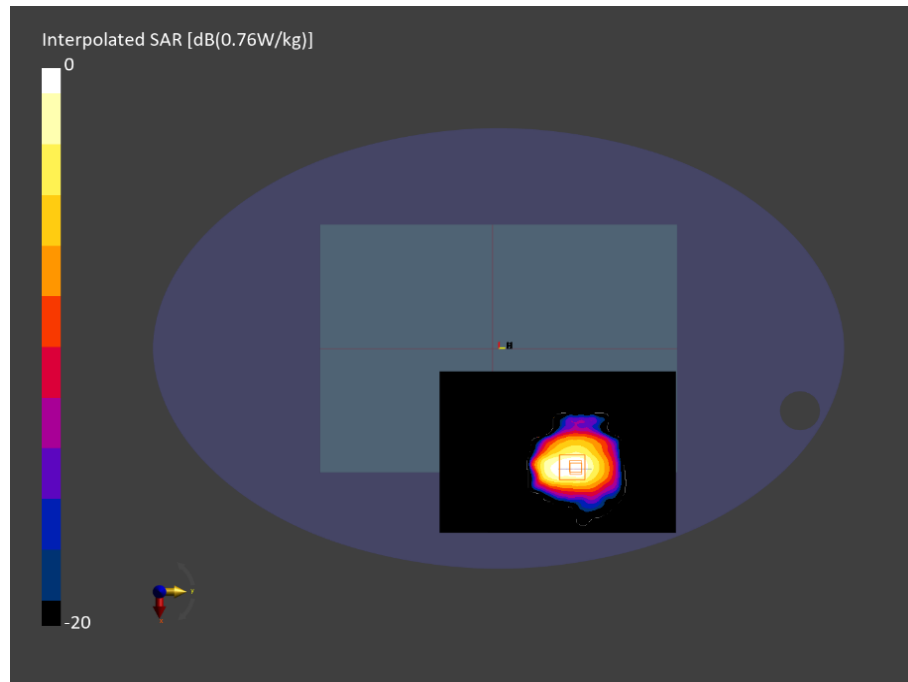


Figure C.04: SAR testing results for the A3240 at 5250 MHz Core 1



**Measurement Report for A3240, BACK, Custom Band, IEEE 802.15.1 Bluetooth (GFSK, DH5), Channel 5788000 (5788.000 MHz)**

**Device Under Test Properties**

Model, Manufacturer	Dimensions [mm]	IMEI	DUT Type
A3240,	302.0 x 215.0 x 14.0		Laptop

**Exposure Conditions**

Phantom Section, TSL	Position, Test Distance [mm]	Band	Group, UID	Frequency [MHz], Channel Number	Conversion Factor	TSL Conductivity [S/m]	TSL Permittivity
Flat, Head Simulating Liquid	BACK, 0.00	Custom Band	CW, 10032-CAA	5788.000, 5788000	4.63	5.05	33.9

**Hardware Setup**

Phantom	TSL, Measured Date	Probe, Calibration Date	DAE, Calibration Date
ELI V8.0 (20deg probe tilt) - 2202	HBBL-600-10000 DAK 3.5 Head 21.23 deg.C 2024-Oct-30 SYS5 B5, 2024-10-30	EX3DV4 - SN7805, 2024-02-14	DAE4ip Sn1785, 2024-02-13

**Scans Setup**

	Area Scan	Zoom Scan
Grid Extents [mm]	140.0 x 200.0	22.0 x 22.0 x 22.0
Grid Steps [mm]	10.0 x 10.0	4.0 x 4.0 x 1.4
Sensor Surface [mm]	3.0	1.4
Graded Grid	N/A	Yes
Grading Ratio	N/A	1.4
MAIA	Y	Y
Surface Detection	VMS + 6p	VMS + 6p
Scan Method	Measured	Measured

**Measurement Results**

	Area Scan	Zoom Scan
Date	2024-10-30, 22:40	2024-10-30, 22:47
psSAR1g [W/Kg]	0.321	0.376
psSAR10g [W/Kg]	0.111	0.109
Power Drift [dB]	0.19	0.21
Power Scaling	Disabled	Disabled
Scaling Factor [dB]		
TSL Correction	Positive only	Positive only
M2/M1 [%]		56.5
Dist 3dB Peak [mm]		6.9



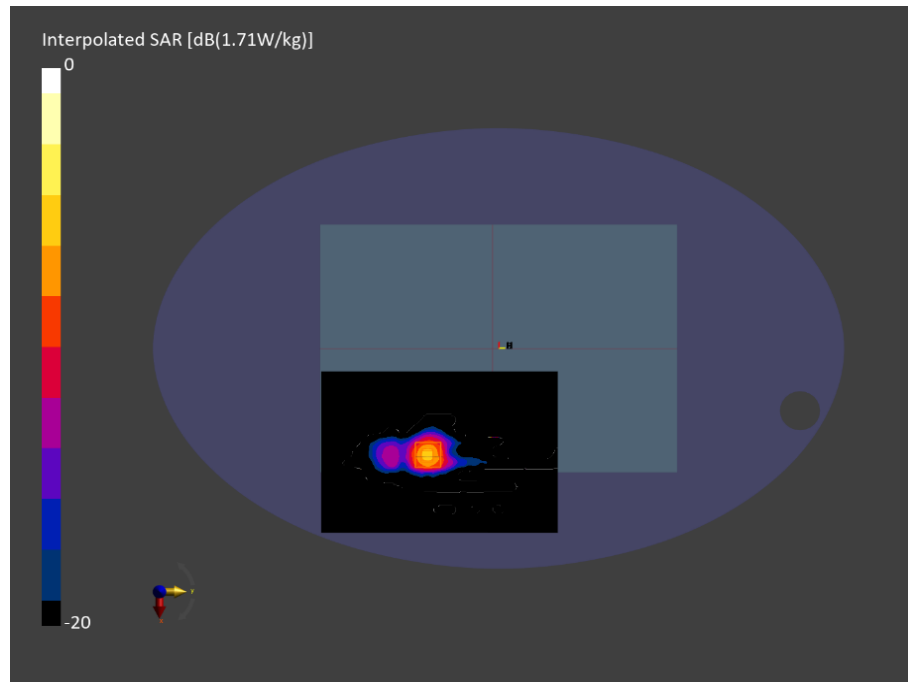


Figure C.05: SAR testing results for the A3240 at 5788 MHz Core 0



**Measurement Report for A3240, BACK, Custom Band, IEEE 802.15.1 Bluetooth (GFSK, DH5), Channel 5850000 (5850.000 MHz)**

**Device Under Test Properties**

Model, Manufacturer	Dimensions [mm]	IMEI	DUT Type
A3240,	302.0 x 215.0 x 14.0		Laptop

**Exposure Conditions**

Phantom Section, TSL	Position, Test Distance [mm]	Band	Group, UID	Frequency [MHz], Channel Number	Conversion Factor	TSL Conductivity [S/m]	TSL Permittivity
Flat, Head Simulating Liquid	BACK, 0.00	Custom Band	CW, 10032-CAA	5850.000, 5850000	4.63	5.12	33.8

**Hardware Setup**

Phantom	TSL, Measured Date	Probe, Calibration Date	DAE, Calibration Date
ELI V8.0 (20deg probe tilt) - 2202	HBBL-600-10000 DAK 3.5 Head 21.23 deg.C 2024-Oct-30 SYS5 B5, 2024-10-30	EX3DV4 - SN7805, 2024-02-14	DAE4ip Sn1785, 2024-02-13

**Scans Setup**

	Area Scan	Zoom Scan
Grid Extents [mm]	140.0 x 200.0	22.0 x 22.0 x 22.0
Grid Steps [mm]	10.0 x 10.0	4.0 x 4.0 x 1.4
Sensor Surface [mm]	3.0	1.4
Graded Grid	N/A	Yes
Grading Ratio	N/A	1.4
MAIA	Y	Y
Surface Detection	VMS + 6p	VMS + 6p
Scan Method	Measured	Measured

**Measurement Results**

	Area Scan	Zoom Scan
Date	2024-10-31, 04:11	2024-10-31, 04:22
psSAR1g [W/Kg]	0.193	0.212
psSAR10g [W/Kg]	0.066	0.062
Power Drift [dB]	0.31	0.20
Power Scaling	Disabled	Disabled
Scaling Factor [dB]		
TSL Correction	Positive only	Positive only
M2/M1 [%]		57.7
Dist 3dB Peak [mm]		7.3