



No. 25T04N001822-011-SAR

1900MHz Dipole (2024)



Add: No.52 HuaYuanBei Road, Haidian District, Beijing, 100191
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CALIBRATION
CNAS L0570



Client: SAICT

Certificate No: 24J02Z000739

CALIBRATION CERTIFICATE

Object D1900V2 - SN: 5d088

Calibration Procedure(s) FF-Z11-003-01
Calibration Procedures for dipole validation kits

Calibration date: September 26, 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±3)°C and humidity<70%.

Calibration Equipment used (M&TE critical for calibration)

Primary Standards	ID #	Cal Date (Calibrated by, Certificate No.)	Scheduled Calibration
Power Meter NRP2	106276	17-May-24 (CTTL, No. J24X04107)	May-25
Power sensor NRP6A	101369	17-May-24 (CTTL, No. J24X04107)	May-25
Reference Probe EX3DV4	SN 7464	22-Jan-24(SPEAG, No. EX-7464_Jan24)	Jan-25
DAE4	SN 1556	03-Jan-24(CTTL-SPEAG, No.24J02Z80002)	Jan-25
Secondary Standards	ID #	Cal Date (Calibrated by, Certificate No.)	Scheduled Calibration
Signal Generator E4438C	MY49071430	25-Dec-23 (CTTL, No. J23X13426)	Dec-24
NetworkAnalyzer E5071C	MY46110673	25-Dec-23 (CTTL, No. J23X13425)	Dec-24
OCP DAK-3.5(weighted)	1040	22-Jan-24(SPEAG, No.OCP-DAK3.5-1040_Jan24)	Jan-25

	Name	Function	Signature
Calibrated by:	Zhao Jing	SAR Test Engineer	
Reviewed by:	Lin Jun	SAR Test Engineer	
Approved by:	Qi Dianyuan	SAR Project Leader	

Issued: September 30, 2024

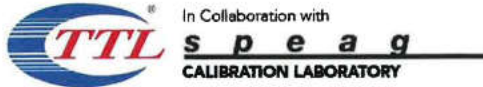
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Page 1 of 6



No. 25T04N001822-011-SAR



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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-mounted Wireless Communication Devices- Part 1528: Human Models, Instrumentation and Procedures (Frequency range of 4 MHz to 10 GHz)", October 2020
- b) KDB 865664, "SAR Measurement Requirements for 100 MHz to 6 GHz"

Additional Documentation:

- c) DASY4/5 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 impedance stated is transformed from the measurement at the SMA connector to the feed point. The Return Loss ensures low reflected power. No uncertainty required.
- *Electrical Delay:* One-way delay between the SMA connector and the antenna feed point. 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%.



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Measurement Conditions

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

DASY Version	DASY52	52.10.4
Extrapolation	Advanced Extrapolation	
Phantom	Triple Flat Phantom 5.1C	
Distance Dipole Center - TSL	10 mm	with Spacer
Zoom Scan Resolution	dx, dy, dz = 5 mm	
Frequency	1900 MHz $\pm$ 1 MHz	

Head TSL parameters

The following parameters and calculations were applied.

	Temperature	Permittivity	Conductivity
Nominal Head TSL parameters	22.0 °C	40.0	1.40 mho/m
Measured Head TSL parameters	(22.0 $\pm$ 0.2) °C	40.6 $\pm$ 6 %	1.39 mho/m $\pm$ 6 %
Head TSL temperature change during test	<1.0 °C	---	---

SAR result with Head TSL

SAR averaged over 1 cm^3 (1 g) of Head TSL	Condition	
SAR measured	250 mW input power	9.83 W/kg
SAR for nominal Head TSL parameters	normalized to 1W	39.7 W/kg $\pm$ 18.8 % (k=2)
SAR averaged over 10 cm^3 (10 g) of Head TSL	Condition	
SAR measured	250 mW input power	5.19 W/kg
SAR for nominal Head TSL parameters	normalized to 1W	20.9 W/kg $\pm$ 18.7 % (k=2)



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Appendix (Additional assessments outside the scope of CNAS L0570)

Antenna Parameters with Head TSL

Impedance, transformed to feed point	51.5Ω+ 7.67jΩ
Return Loss	- 22.3dB

General Antenna Parameters and Design

Electrical Delay (one direction)	1.100 ns
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After long term use with 100W radiated power, only a slight warming of the dipole near the feed-point 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 feed-point may be damaged.

Additional EUT Data

Manufactured by	SPEAG
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DASY5 Validation Report for Head TSL

Date: 2024-09-26

Test Laboratory: CTTL, Beijing, China

DUT: Dipole 1900 MHz; Type: D1900V2; Serial: D1900V2 - SN: 5d088

Communication System: UID 0, CW; Frequency: 1900 MHz; Duty Cycle: 1:1

Medium parameters used: $f = 1900$ MHz; $\sigma = 1.386$ S/m; $\epsilon_r = 40.63$; $\rho = 1000$ kg/m³

Phantom section: Right Section

Measurement Standard: DASY5 (IEEE/IEC/ANSI C63.19-2007)

DASY5 Configuration:

- Probe: EX3DV4 - SN7464; ConvF(7.64, 7.81, 7.99) @ 1900 MHz; Calibrated: 2024-01-22
- Sensor-Surface: 1.4mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn1556; Calibrated: 2024-01-03
- Phantom: MFP_V5.1C (20deg probe tilt); Type: QD 000 P51 Cx; Serial: 1062
- DASY52 52.10.4(1535); SEMCAD X 14.6.14(7501)

Dipole Calibration/Zoom Scan (7x7x7) (7x7x7)/Cube 0: Measurement grid: dx=5mm, dy=5mm, dz=5mm

Reference Value = 98.28 V/m; Power Drift = -0.08 dB

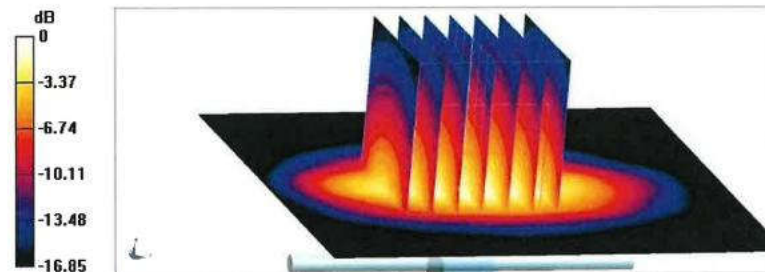
Peak SAR (extrapolated) = 17.6 W/kg

SAR(1 g) = 9.83 W/kg; SAR(10 g) = 5.19 W/kg

Smallest distance from peaks to all points 3 dB below = 9.8 mm

Ratio of SAR at M2 to SAR at M1 = 56.7%

Maximum value of SAR (measured) = 15.0 W/kg



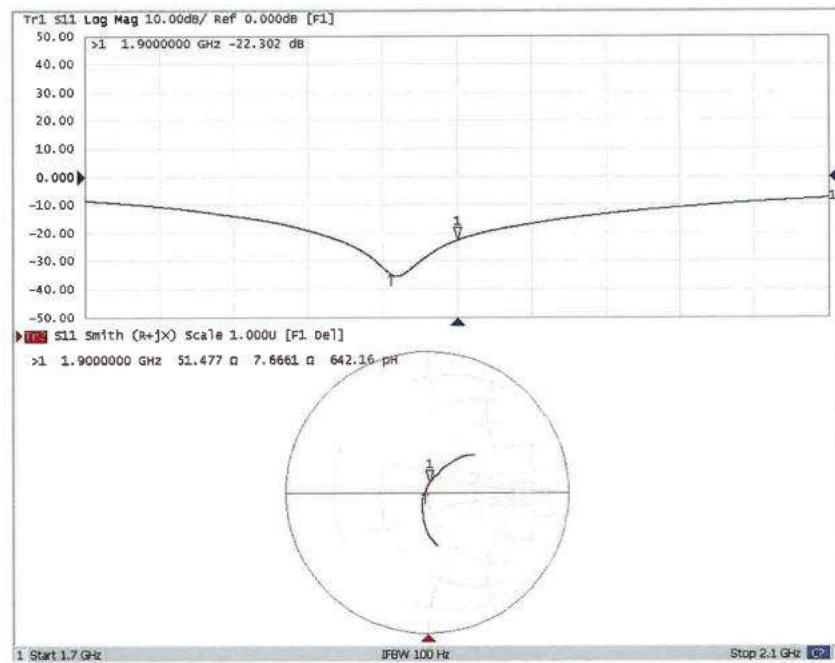


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Impedance Measurement Plot for Head TSL





No. 25T04N001822-011-SAR

2300MHz Dipole (2024)



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CNAS L0570



Client: SAICT

Certificate No: 24J02Z000556

CALIBRATION CERTIFICATE

Object D2300V2 - SN: 1059

Calibration Procedure(s) FF-Z11-003-01
Calibration Procedures for dipole validation kits

Calibration date: September 3, 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±3)°C and humidity<70%.

Calibration Equipment used (M&TE critical for calibration)

Primary Standards	ID #	Cal Date (Calibrated by, Certificate No.)	Scheduled Calibration
Power Meter NRP2	106276	17-May-24 (CTTL, No. J24X04107)	May-25
Power sensor NRP6A	101369	17-May-24 (CTTL, No. J24X04107)	May-25
Reference Probe EX3DV4	SN 7464	22-Jan-24(SPEAG, No. EX-7464_Jan24)	Jan-25
DAE4	SN 1556	03-Jan-24(CTTL-SPEAG, No.24J02Z80002)	Jan-25
Secondary Standards	ID #	Cal Date (Calibrated by, Certificate No.)	Scheduled Calibration
Signal Generator E4438C	MY49071430	25-Dec-23 (CTTL, No. J23X13426)	Dec-24
NetworkAnalyzer E5071C	MY46110673	25-Dec-23 (CTTL, No. J23X13425)	Dec-24
OCP DAK-3.5(weighted)	1040	22-Jan-24(SPEAG, No.OCP-DAK3.5-1040_Jan24)	Jan-25

	Name	Function	Signature
Calibrated by:	Zhao Jing	SAR Test Engineer	
Reviewed by:	Lin Jun	SAR Test Engineer	
Approved by:	Qi Dianyuan	SAR Project Leader	

Issued: September 13, 2024

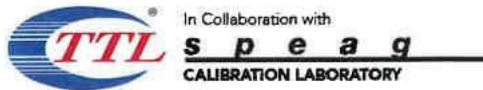
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Page 1 of 6



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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-mounted Wireless Communication Devices- Part 1528: Human Models, Instrumentation and Procedures (Frequency range of 4 MHz to 10 GHz)", October 2020
- b) KDB 865664, "SAR Measurement Requirements for 100 MHz to 6 GHz"

Additional Documentation:

- c) DASY4/5 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 impedance stated is transformed from the measurement at the SMA connector to the feed point. The Return Loss ensures low reflected power. No uncertainty required.
- *Electrical Delay:* One-way delay between the SMA connector and the antenna feed point. 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%.



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Measurement Conditions

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

DASY Version	DASY52	52.10.4
Extrapolation	Advanced Extrapolation	
Phantom	Triple Flat Phantom 5.1C	
Distance Dipole Center - TSL	10 mm	with Spacer
Zoom Scan Resolution	dx, dy, dz = 5 mm	
Frequency	2300 MHz $\pm$ 1 MHz	

Head TSL parameters

The following parameters and calculations were applied.

	Temperature	Permittivity	Conductivity
Nominal Head TSL parameters	22.0 °C	39.5	1.67 mho/m
Measured Head TSL parameters	(22.0 $\pm$ 0.2) °C	40.1 $\pm$ 6 %	1.63 mho/m $\pm$ 6 %
Head TSL temperature change during test	<1.0 °C	----	----

SAR result with Head TSL

SAR averaged over 1 cm^3 (1 g) of Head TSL	Condition	
SAR measured	250 mW input power	12.1 W/kg
SAR for nominal Head TSL parameters	normalized to 1W	49.1 W/kg $\pm$ 18.8 % ($k=2$)
SAR averaged over 10 cm^3 (10 g) of Head TSL	Condition	
SAR measured	250 mW input power	5.95 W/kg
SAR for nominal Head TSL parameters	normalized to 1W	24.0 W/kg $\pm$ 18.7 % ($k=2$)



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Appendix (Additional assessments outside the scope of CNAS L0570)

Antenna Parameters with Head TSL

Impedance, transformed to feed point	46.6Ω- 3.58jΩ
Return Loss	- 25.8dB

General Antenna Parameters and Design

Electrical Delay (one direction)	1.075 ns
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After long term use with 100W radiated power, only a slight warming of the dipole near the feed-point 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 feed-point may be damaged.

Additional EUT Data

Manufactured by	SPEAG
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E-mail: emf@caict.ac.cn <http://www.caict.ac.cn>

DASY5 Validation Report for Head TSL

Date: 2024-09-03

Test Laboratory: CTTL, Beijing, China

DUT: Dipole 2300 MHz; Type: D2300V2; Serial: D2300V2 - SN: 1059

Communication System: UID 0, CW; Frequency: 2300 MHz

Medium parameters used: $f = 2300$ MHz; $\sigma = 1.632$ S/m; $\epsilon_r = 40.08$; $\rho = 1000$ kg/m³

Phantom section: Right Section

Measurement Standard: DASY5 (IEEE/IEC/ANSI C63.19-2007)

DASY5 Configuration:

- Probe: EX3DV4 - SN7464; ConvF(7.46, 7.6, 7.77) @ 2300 MHz; Calibrated: 2024-01-22
- Sensor-Surface: 1.4mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn1556; Calibrated: 2024-01-03
- Phantom: MFP_V5.1C (20deg probe tilt); Type: QD 000 P51 Cx; Serial: 1062
- DASY52 52.10.4(1535); SEMCAD X 14.6.14(7501)

Dipole Calibration/Zoom Scan (7x7x7) (7x7x7)/Cube 0: Measurement grid: dx=5mm, dy=5mm, dz=5mm

Reference Value = 105.7 V/m; Power Drift = 0.08 dB

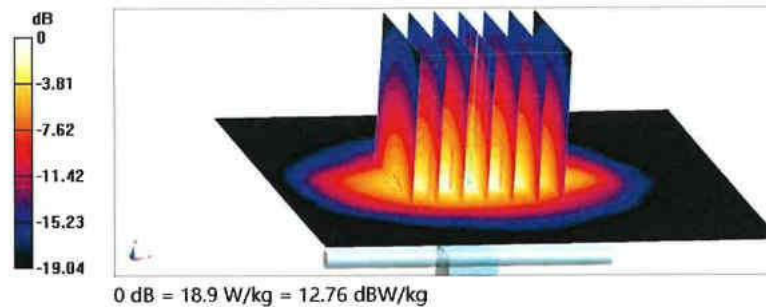
Peak SAR (extrapolated) = 22.1 W/kg

SAR(1 g) = 12.1 W/kg; SAR(10 g) = 5.95 W/kg

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

Ratio of SAR at M2 to SAR at M1 = 55.9%

Maximum value of SAR (measured) = 18.9 W/kg



Certificate No: 24J02Z000556

Page 5 of 6

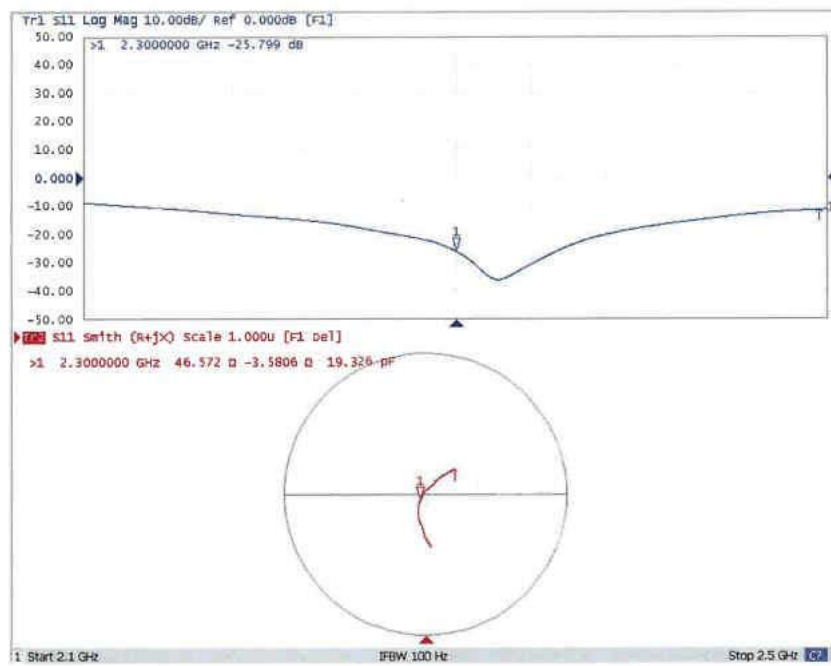


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Impedance Measurement Plot for Head TSL



Certificate No: 24J02Z000556

Page 6 of 6



No. 25T04N001822-011-SAR

2450MHz Dipole (2024)



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CNAS L0570



Client SAICT

Certificate No: 24J02Z000740

CALIBRATION CERTIFICATE

Object D2450V2 - SN: 873

Calibration Procedure(s) FF-Z11-003-01
Calibration Procedures for dipole validation kits

Calibration date: September 26, 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±3)°C and humidity<70%.

Calibration Equipment used (M&TE critical for calibration)

Primary Standards	ID #	Cal Date (Calibrated by, Certificate No.)	Scheduled Calibration
Power Meter NRP2	106276	17-May-24 (CTTL, No. J24X04107)	May-25
Power sensor NRP6A	101369	17-May-24 (CTTL, No. J24X04107)	May-25
Reference Probe EX3DV4	SN 7464	22-Jan-24(SPEAG, No. EX-7464_Jan24)	Jan-25
DAE4	SN 1556	03-Jan-24(CTTL-SPEAG, No.24J02Z80002)	Jan-25
Secondary Standards	ID #	Cal Date (Calibrated by, Certificate No.)	Scheduled Calibration
Signal Generator E4438C	MY49071430	25-Dec-23 (CTTL, No. J23X13426)	Dec-24
NetworkAnalyzer E5071C	MY46110673	25-Dec-23 (CTTL, No. J23X13425)	Dec-24
OCP DAK-3.5(weighted)	1040	22-Jan-24(SPEAG, No.OCP-DAK3.5-1040_Jan24)	Jan-25

	Name	Function	Signature
Calibrated by:	Zhao Jing	SAR Test Engineer	
Reviewed by:	Lin Jun	SAR Test Engineer	
Approved by:	Qi Dianyuan	SAR Project Leader	

Issued: September 30, 2024

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Certificate No: 24J02Z000740

Page 1 of 6



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

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- b) KDB 865664, "SAR Measurement Requirements for 100 MHz to 6 GHz"

Additional Documentation:

- c) DASY4/5 System Handbook

Methods Applied and Interpretation of Parameters:

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- *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 impedance stated is transformed from the measurement at the SMA connector to the feed point. The Return Loss ensures low reflected power. No uncertainty required.
- *Electrical Delay:* One-way delay between the SMA connector and the antenna feed point. 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%.



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Measurement Conditions

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

DASY Version	DASY52	52.10.4
Extrapolation	Advanced Extrapolation	
Phantom	Triple Flat Phantom 5.1C	
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	39.8 $\pm$ 6 %	1.76 mho/m $\pm$ 6 %
Head TSL temperature change during test	<1.0 °C	----	----

SAR result with Head TSL

SAR averaged over 1 cm ³ (1 g) of Head TSL	Condition	
SAR measured	250 mW input power	13.0 W/kg
SAR for nominal Head TSL parameters	normalized to 1W	52.7 W/kg $\pm$ 18.8 % (k=2)
SAR averaged over 10 cm ³ (10 g) of Head TSL	Condition	
SAR measured	250 mW input power	6.16 W/kg
SAR for nominal Head TSL parameters	normalized to 1W	24.8 W/kg $\pm$ 18.7 % (k=2)



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Appendix (Additional assessments outside the scope of CNAS L0570)

Antenna Parameters with Head TSL

Impedance, transformed to feed point	53.3Ω+ 1.81jΩ
Return Loss	- 28.7dB

General Antenna Parameters and Design

Electrical Delay (one direction)	1.067 ns
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After long term use with 100W radiated power, only a slight warming of the dipole near the feed-point 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 feed-point may be damaged.

Additional EUT Data

Manufactured by	SPEAG
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DASY5 Validation Report for Head TSL

Date: 2024-09-26

Test Laboratory: CTTL, Beijing, China

DUT: Dipole 2450 MHz; Type: D2450V2; Serial: D2450V2 - SN: 873

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

Medium parameters used: $f = 2450$ MHz; $\sigma = 1.763$ S/m; $\epsilon_r = 39.76$; $\rho = 1000$ kg/m³

Phantom section: Right Section

Measurement Standard: DASY5 (IEEE/IEC/ANSI C63.19-2007)

DASY5 Configuration:

- Probe: EX3DV4 - SN7464; ConvF(7.63, 7.75, 7.92) @ 2450 MHz; Calibrated: 2024-01-22
- Sensor-Surface: 1.4mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn1556; Calibrated: 2024-01-03
- Phantom: MFP_V5.1C (20deg probe tilt); Type: QD 000 P51 Cx; Serial: 1062
- DASY52 52.10.4(1535); SEMCAD X 14.6.14(7501)

Dipole Calibration/Zoom Scan (7x7x7) (7x7x7)/Cube 0: Measurement grid: dx=5mm, dy=5mm, dz=5mm

Reference Value = 97.57 V/m; Power Drift = 0.02 dB

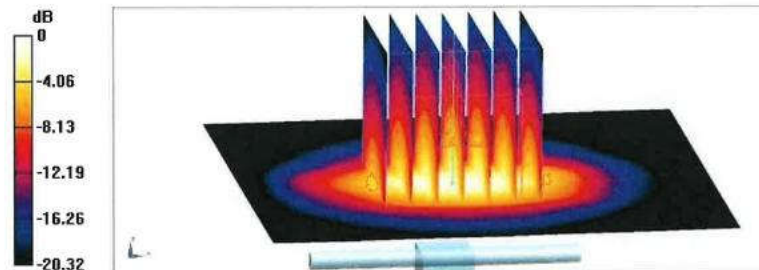
Peak SAR (extrapolated) = 25.3 W/kg

SAR(1 g) = 13 W/kg; SAR(10 g) = 6.16 W/kg

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

Ratio of SAR at M2 to SAR at M1 = 52.4%

Maximum value of SAR (measured) = 21.0 W/kg



0 dB = 21.0 W/kg = 13.22 dBW/kg

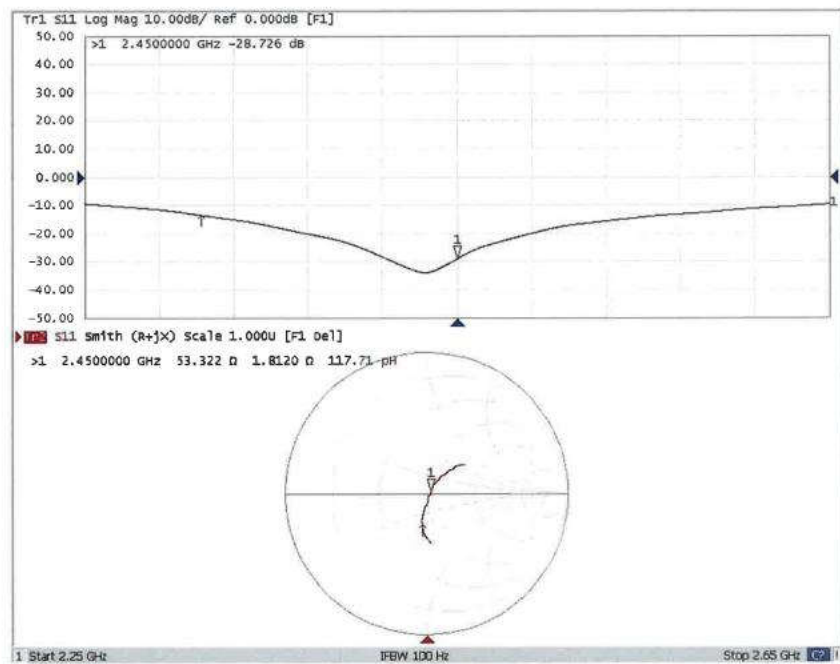


No. 25T04N001822-011-SAR



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Impedance Measurement Plot for Head TSL



Certificate No: 24J02Z000740

Page 6 of 6



No. 25T04N001822-011-SAR

2550MHz Dipole (2024)

**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 **SAICT**
Shenzhen

Certificate No. **D2550V2-1010_Apr24**

CALIBRATION CERTIFICATE

Object **D2550V2 - SN:1010**

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

Calibration date: **April 23, 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 ± 3)°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	26-Mar-24 (No. 217-04036/04037)	Mar-25
Power sensor NRP-Z91	SN: 103244	26-Mar-24 (No. 217-04036)	Mar-25
Power sensor NRP-Z91	SN: 103245	26-Mar-24 (No. 217-04037)	Mar-25
Reference 20 dB Attenuator	SN: BH9394 (20k)	26-Mar-24 (No. 217-04046)	Mar-25
Type-N mismatch combination	SN: 310982 / 06327	26-Mar-24 (No. 217-04047)	Mar-25
Reference Probe EX3DV4	SN: 7349	03-Nov-23 (No. EX3-7349_Nov23)	Nov-24
DAE4	SN: 601	30-Jan-24 (No. DAE4-601_Jan24)	Jan-25
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: April 23, 2024

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Certificate No: D2550V2-1010_Apr24

Page 1 of 6



No. 25T04N001822-011-SAR

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



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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.
- b) KDB 865664, "SAR Measurement Requirements for 100 MHz to 6 GHz"

Additional Documentation:

- c) 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	2550 MHz $\pm$ 1 MHz	

Head TSL parameters

The following parameters and calculations were applied.

	Temperature	Permittivity	Conductivity
Nominal Head TSL parameters	22.0 °C	39.1	1.91 mho/m
Measured Head TSL parameters	(22.0 $\pm$ 0.2) °C	37.6 $\pm$ 6 %	1.98 mho/m $\pm$ 6 %
Head TSL temperature change during test	< 0.5 °C	-----	-----

SAR result with Head TSL

SAR averaged over 1 cm ³ (1 g) of Head TSL	Condition	
SAR measured	250 mW input power	14.1 W/kg
SAR for nominal Head TSL parameters	normalized to 1W	55.0 W/kg $\pm$ 17.0 % (k=2)

SAR averaged over 10 cm ³ (10 g) of Head TSL	condition	
SAR measured	250 mW input power	6.35 W/kg
SAR for nominal Head TSL parameters	normalized to 1W	25.0 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	53.3 Ω - 2.9 j Ω
Return Loss	- 27.4 dB

General Antenna Parameters and Design

Electrical Delay (one direction)	1.153 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: 23.04.2024

Test Laboratory: SPEAG, Zurich, Switzerland

DUT: Dipole 2550 MHz; Type: D2550V2; Serial: D2550V2 - SN:1010

Communication System: UID 0 - CW; Frequency: 2550 MHz

Medium parameters used: $f = 2550$ MHz; $\sigma = 1.98$ S/m; $\epsilon_r = 37.6$; $\rho = 1000$ kg/m³

Phantom section: Flat Section

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

DASY52 Configuration:

- Probe: EX3DV4 - SN7349; ConvF(7.85, 7.85, 7.85) @ 2550 MHz; Calibrated: 03.11.2023
- Sensor-Surface: 1.4mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn601; Calibrated: 30.01.2024
- 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: $dx=5$ mm, $dy=5$ mm, $dz=5$ mm

Reference Value = 118.6 V/m; Power Drift = 0.05 dB

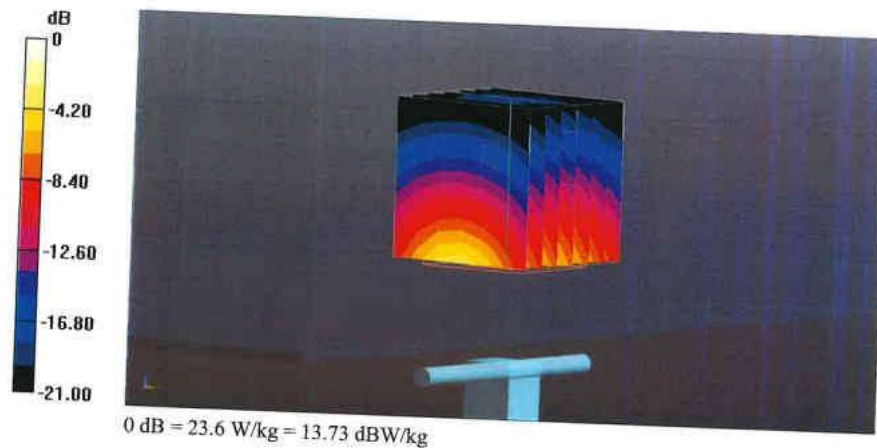
Peak SAR (extrapolated) = 29.0 W/kg

SAR(1 g) = 14.1 W/kg; SAR(10 g) = 6.35 W/kg

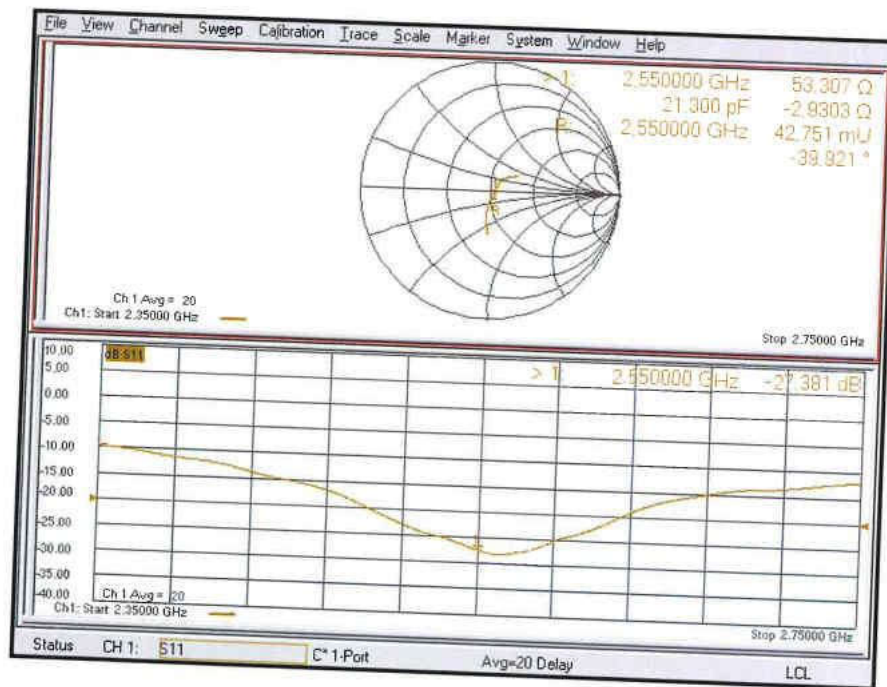
Smallest distance from peaks to all points 3 dB below = 9 mm

Ratio of SAR at M2 to SAR at M1 = 48.4%

Maximum value of SAR (measured) = 23.6 W/kg



Impedance Measurement Plot for Head TSL





No. 25T04N001822-011-SAR

5GHz Dipole (2025)



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E-mail: emf@caict.ac.cn http://www.caict.ac.cn



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CALIBRATION
CNAS L0570



Client **SAICT (Shenzhen)**

Certificate No: **25J02Z000514**

CALIBRATION CERTIFICATE

Object **D5GHzV2 - SN: 1238**

Calibration Procedure(s) **FF-Z11-003-01**
Calibration Procedures for dipole validation kits

Calibration date: **July 30, 2025**

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±3)°C and humidity<70%.

Calibration Equipment used (M&TE critical for calibration)

Primary Standards	ID #	Cal Date (Calibrated by, Certificate No.)	Scheduled Calibration
Power Meter NRP2	106276	16-May-25 (CTTL, No. 25J02X003423)	May-26
Power sensor NRP6A	101369	16-May-25 (CTTL, No. 25J02X003423)	May-26
Reference Probe EX3DV4	SN 7727	10-Jul-25(CTTL-SPEAG, No.25J02Z000391)	Jul-26
DAE4	SN 1588	13-Sep-24(CTTL-SPEAG, No. 24J02Z000713)	Sep-25
Secondary Standards	ID #	Cal Date (Calibrated by, Certificate No.)	Scheduled Calibration
Signal Generator E4438C	MY49071430	19-Dec-24 (CTTL, No. 24J02X103931)	Dec-25
NetworkAnalyzer E5071C	MY46110673	18-Dec-24 (CTTL, No. 24J02X103932)	Dec-25
OCP DAKS	SN 0015	09-Oct-24(SPEAG, No. OCP-DAKS-0015_Oct24)	Oct -25

	Name	Function	Signature
Calibrated by:	Zhao Jing	SAR Test Engineer	
Reviewed by:	Lin Jun	SAR Test Engineer	
Approved by:	Qi Dianyuan	SAR Project Leader	

Issued: August 8, 2025

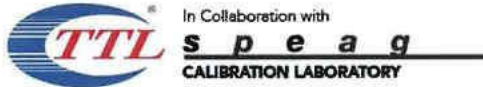
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Certificate No: 25J02Z000514

Page 1 of 8



No. 25T04N001822-011-SAR



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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-mounted Wireless Communication Devices- Part 1528: Human Models, Instrumentation and Procedures (Frequency range of 4 MHz to 10 GHz)", October 2020
- b) KDB 865664, "SAR Measurement Requirements for 100 MHz to 6 GHz"

Additional Documentation:

- c) DASY4/5 System Handbook

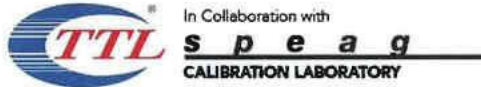
Methods Applied and Interpretation of Parameters:

- *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 impedance stated is transformed from the measurement at the SMA connector to the feed point. The Return Loss ensures low reflected power. No uncertainty required.
- *Electrical Delay:* One-way delay between the SMA connector and the antenna feed point. 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%.



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Measurement Conditions

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

DASY Version	DASY52	52.10.4
Extrapolation	Advanced Extrapolation	
Phantom	Triple Flat Phantom 5.1C	
Distance Dipole Center - TSL	10 mm	with Spacer
Zoom Scan Resolution	dx, dy = 4 mm, dz = 1.4 mm	Graded Ratio = 1.4 (Z direction)
Frequency	5250 MHz $\pm$ 1 MHz 5600 MHz $\pm$ 1 MHz 5750 MHz $\pm$ 1 MHz	

Head TSL parameters at 5250MHz

The following parameters and calculations were applied.

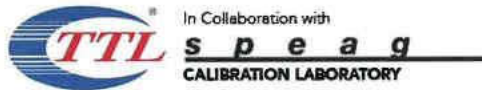
	Temperature	Permittivity	Conductivity
Nominal Head TSL parameters	22.0 °C	35.9	4.71 mho/m
Measured Head TSL parameters	(22.0 $\pm$ 0.2) °C	36.1 $\pm$ 6 %	4.68 mho/m $\pm$ 6 %
Head TSL temperature change during test	<1.0 °C	—	—

SAR result with Head TSL at 5250MHz

SAR averaged over 1 cm ³ (1 g) of Head TSL	Condition	
SAR measured	100 mW input power	7.78 W/kg
SAR for nominal Head TSL parameters	normalized to 1W	77.9 W/kg $\pm$ 24 % (k=2)
SAR averaged over 10 cm ³ (10 g) of Head TSL	Condition	
SAR measured	100 mW input power	2.21 W/kg
SAR for nominal Head TSL parameters	normalized to 1W	22.1 W/kg $\pm$ 24 % (k=2)



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Head TSL parameters at 5600MHz

The following parameters and calculations were applied.

	Temperature	Permittivity	Conductivity
Nominal Head TSL parameters	22.0 °C	35.5	5.07 mho/m
Measured Head TSL parameters	(22.0 ± 0.2) °C	35.5 ± 6 %	5.05 mho/m ± 6 %
Head TSL temperature change during test	<1.0 °C	---	---

SAR result with Head TSL at 5600MHz

SAR averaged over 1 cm ³ (1 g) of Head TSL	Condition	
SAR measured	100 mW input power	8.23 W/kg
SAR for nominal Head TSL parameters	normalized to 1W	82.3 W/kg ± 24 % (k=2)
SAR averaged over 10 cm ³ (10 g) of Head TSL	Condition	
SAR measured	100 mW input power	2.33 W/kg
SAR for nominal Head TSL parameters	normalized to 1W	23.3 W/kg ± 24 % (k=2)

Head TSL parameters at 5750MHz

The following parameters and calculations were applied.

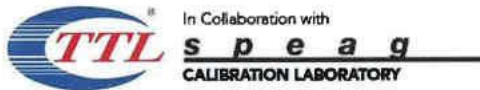
	Temperature	Permittivity	Conductivity
Nominal Head TSL parameters	22.0 °C	35.4	5.22 mho/m
Measured Head TSL parameters	(22.0 ± 0.2) °C	35.3 ± 6 %	5.22 mho/m ± 6 %
Head TSL temperature change during test	<1.0 °C	---	---

SAR result with Head TSL at 5750MHz

SAR averaged over 1 cm ³ (1 g) of Head TSL	Condition	
SAR measured	100 mW input power	7.84 W/kg
SAR for nominal Head TSL parameters	normalized to 1W	78.3 W/kg ± 24 % (k=2)
SAR averaged over 10 cm ³ (10 g) of Head TSL	Condition	
SAR measured	100 mW input power	2.19 W/kg
SAR for nominal Head TSL parameters	normalized to 1W	21.9 W/kg ± 24 % (k=2)



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Appendix (Additional assessments outside the scope of CNAS L0570)

Antenna Parameters with Head TSL at 5250MHz

Impedance, transformed to feed point	47.5Ω- 1.78jΩ
Return Loss	- 30.0dB

Antenna Parameters with Head TSL at 5600MHz

Impedance, transformed to feed point	50.8Ω+ 3.94jΩ
Return Loss	- 28.0dB

Antenna Parameters with Head TSL at 5750MHz

Impedance, transformed to feed point	53.6Ω+ 2.94jΩ
Return Loss	- 26.9dB

General Antenna Parameters and Design

Electrical Delay (one direction)	1.097 ns
----------------------------------	----------

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

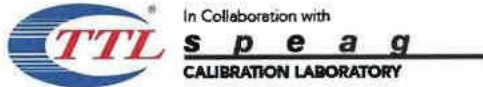
The dipole is made of standard semirigid coaxial cable. The center conductor of the feeding line is directly connected to the second arm of the dipole. The antenna is therefore short-circuited for DC-signals. On some of the dipoles, small end caps are added to the dipole arms in order to improve matching 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 feed-point may be damaged.

Additional EUT Data

Manufactured by	SPEAG
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DASY5 Validation Report for Head TSL

Date: 2025-07-30

Test Laboratory: CTTL, Beijing, China

DUT: Dipole 5GHz; Type: D5GHzV2; Serial: D5GHzV2 - SN: 1238

Communication System: CW; Frequency: 5250 MHz, Frequency: 5600 MHz,
Frequency: 5750 MHz

Medium parameters used: $f = 5250$ MHz; $\sigma = 4.677$ S/m; $\epsilon_r = 36.08$; $\rho = 1000$ kg/m³

Medium parameters used: $f = 5600$ MHz; $\sigma = 5.054$ S/m; $\epsilon_r = 35.47$; $\rho = 1000$ kg/m³

Medium parameters used: $f = 5750$ MHz; $\sigma = 5.218$ S/m; $\epsilon_r = 35.25$; $\rho = 1000$ kg/m³

Phantom section: Center Section

Measurement Standard: DASY5 (IEEE/IEC/ANSI C63.19-2007)

DASY5 Configuration:

- Probe: EX3DV4 - SN7727; ConvF(5.6, 5.6, 5.6) @ 5250 MHz; ConvF(5, 5, 5) @ 5600 MHz; ConvF(5.1, 5.1, 5.1) @ 5750 MHz; Calibrated: 2025-07-10
- Sensor-Surface: 1.4mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn1588; Calibrated: 2024-09-13
- Phantom: MFP_V5.1C (20deg probe tilt); Type: QD 000 P51 Cx; Serial: 1062
- DASY52 52.10.4(1535); SEMCAD X 14.6.14(7501)

Dipole Calibration /Pin=100mW, d=10mm, f=5250 MHz/Zoom Scan,

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

Reference Value = 70.78 V/m; Power Drift = -0.01 dB

Peak SAR (extrapolated) = 30.8 W/kg

SAR(1 g) = 7.78 W/kg; SAR(10 g) = 2.21 W/kg

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

Ratio of SAR at M2 to SAR at M1 = 65.7%

Maximum value of SAR (measured) = 18.0 W/kg

Dipole Calibration /Pin=100mW, d=10mm, f=5600 MHz/Zoom Scan,

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

Reference Value = 70.59 V/m; Power Drift = -0.04 dB

Peak SAR (extrapolated) = 35.0 W/kg

SAR(1 g) = 8.23 W/kg; SAR(10 g) = 2.33 W/kg

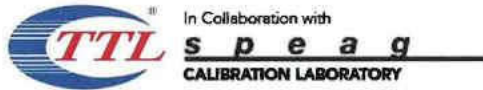
Smallest distance from peaks to all points 3 dB below = 7.4 mm

Ratio of SAR at M2 to SAR at M1 = 63.4%

Maximum value of SAR (measured) = 19.6 W/kg

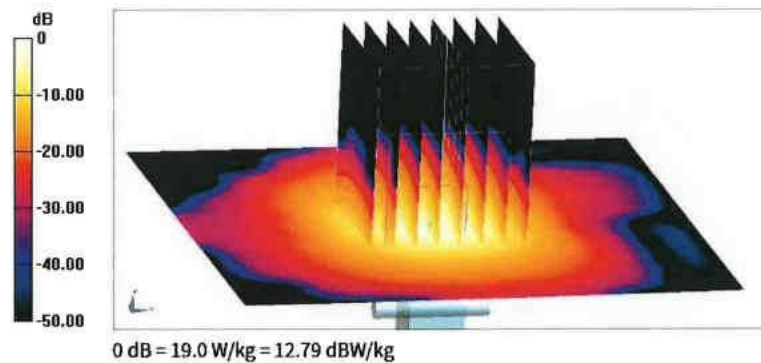


No. 25T04N001822-011-SAR



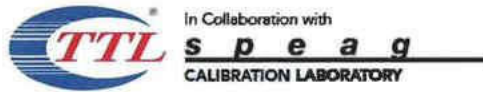
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Dipole Calibration /Pin=100mW, d=10mm, f=5750 MHz/Zoom Scan,
dist=1.4mm (8x8x7)/Cube 0: Measurement grid: dx=4mm, dy=4mm, dz=1.4mm
Reference Value = 68.50 V/m; Power Drift = -0.03 dB
Peak SAR (extrapolated) = 33.8 W/kg
SAR(1 g) = 7.84 W/kg; SAR(10 g) = 2.19 W/kg
Smallest distance from peaks to all points 3 dB below = 7.4 mm
Ratio of SAR at M2 to SAR at M1 = 63.1%
Maximum value of SAR (measured) = 19.0 W/kg



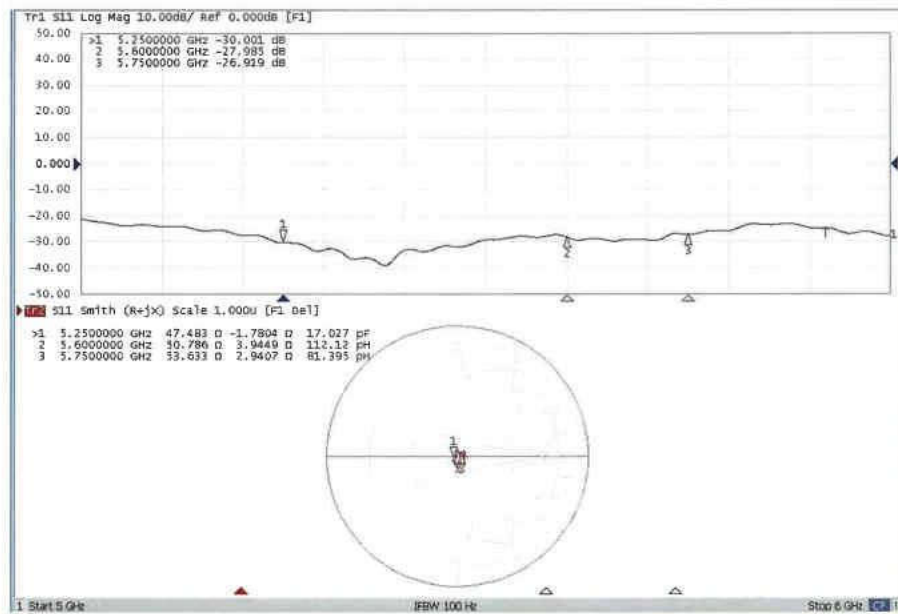


No. 25T04N001822-011-SAR



Add: No.52 HuaYuanBei Road, Haidian District, Beijing, 100191, China
Tel: +86-10-62304633-2117
E-mail: emf@caict.ac.cn <http://www.caict.ac.cn>

Impedance Measurement Plot for Head TSL



ANNEX J: Extended Calibration SAR Dipole

Referring to KDB865664 D01, if dipoles are verified in return loss ($<-20\text{dBm}$, within 20% of prior calibration), and in impedance (within 5 ohm of prior calibration), the annual calibration is not necessary and the calibration interval can be extended.

Justification of Extended Calibration SAR Dipole D835V2 - serial no. 4d057

Head						
Date of Measurement	Return-Loss (dB)	Delta (%)	Real Impedance (ohm)	Delta (ohm)	Imaginary Impedance (johm)	Delta (johm)
2021-10-18	-27.5	/	49.8	/	-4.19	/
2022-10-18	-26.8	2.5	51.4	1.6	-3.97	0.22

Justification of Extended Calibration SAR Dipole D1900V2 - serial no. 5d088

Head						
Date of Measurement	Return-Loss (dB)	Delta (%)	Real Impedance (ohm)	Delta (ohm)	Imaginary Impedance (johm)	Delta (johm)
2021-10-18	-22.6	/	53.7	/	6.80	/
2022-10-18	-22.2	1.8	54.6	0.9	6.93	0.13

Justification of Extended Calibration SAR Dipole D2300V2 - serial no. 1059

Head						
Date of Measurement	Return-Loss (dB)	Delta (%)	Real Impedance (ohm)	Delta (ohm)	Imaginary Impedance (johm)	Delta (johm)
2021-09-22	-26.5	/	48.6	/	-4.46	/
2022-09-22	-25.8	2.6	49.8	1.2	-4.32	0.14

Justification of Extended Calibration SAR Dipole D2450V2 - serial no. 873

Head						
Date of Measurement	Return-Loss (dB)	Delta (%)	Real Impedance (ohm)	Delta (ohm)	Imaginary Impedance (johm)	Delta (johm)
2021-10-21	-28.8	/	53.6	/	1.26	/
2022-10-20	-28.1	2.4	54.9	1.3	1.43	0.17

Justification of Extended Calibration SAR Dipole D2550V2 - serial no.1010

Head						
Date of Measurement	Return-Loss (dB)	Delta (%)	Real Impedance (ohm)	Delta (ohm)	Imaginary Impedance (johm)	Delta (johm)
2021-05-21	-26.8	/	52.8	/	-3.80	/
2022-05-20	-26.3	1.9	53.6	0.8	-3.64	0.16
2023-05-20	-25.9	3.4	54.1	1.3	-3.57	0.23



No. 25T04N001822-011-SAR

Justification of Extended Calibration SAR Dipole D2300V2 - serial no. 1059 (2024)

Head						
Date of Measurement	Return-Loss (dB)	Delta (%)	Real Impedance (ohm)	Delta (ohm)	Imaginary Impedance (johm)	Delta (johm)
2024/9/3	-25.8	/	46.6	/	-3.58	/
2025/9/2	-24.4	5.4	47.3	0.7	-3.45	0.13

Justification of Extended Calibration SAR Dipole D2550V2 - serial no. 1010 (2024)

Head						
Date of Measurement	Return-Loss (dB)	Delta (%)	Real Impedance (ohm)	Delta (ohm)	Imaginary Impedance (johm)	Delta (johm)
2024/4/23	-27.4	/	53.3	/	-2.90	/
2025/4/22	-26.6	2.9	54.2	0.90	-2.73	0.17

The Return-Loss is <-20dB, and within 20% of prior calibration; the impedance is within 5 ohm of prior calibration. Therefore the value result should support extended cabration.



ANNEX K: Sensor Triggering Data Summary

Per FCC KDB Publication 616217 D04, this device was tested by the manufacturer to determine the proximity sensor triggering distances for all applicable sides and edges of the device. The measured output power at distances within ± 5 mm of the triggering points (or until touching the phantom) is included for back side and each applicable edge per Step i) in Section 6.2 of the KDB. The technical descriptions in the filing contain the complete set of triggering data required by Section 6 of FCC KDB Publication 616217 D04.

To ensure all production units are compliant, it is necessary to test SAR at a distance 1 mm less than the smallest distance between the device and SAR phantom with the device at the maximum output power (without power reduction). These SAR tests are included in addition to the SAR tests for the device touching the SAR phantom (at the reduced output power level).

The operational description contains information explaining how this device remains compliant in the event of a sensor malfunction.



WWAN Antenna:

Rear Side

Moving device toward the phantom:

sensor triggered (Yes or No)											
Distance(mm)	30	29	28	27	26	25	24	23	22	21	20
Main antenna	No	No	No	No	No	Yes	Yes	Yes	Yes	Yes	Yes

Moving device away from the phantom:

sensor triggered (Yes or No)											
Distance(mm)	20	21	22	23	24	25	26	27	28	29	30
Main antenna	Yes	Yes	Yes	Yes	Yes	Yes	No	No	No	No	No

Based on the most conservative measured triggering distance of 25 mm, additional SAR measurements were required at 24 mm in the rear side.

Top Side

Moving device toward the phantom:

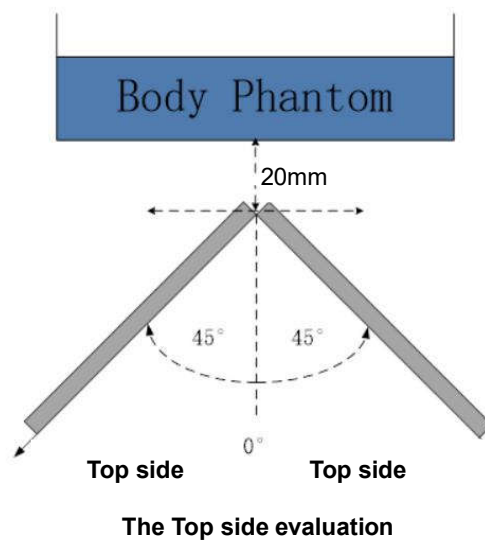
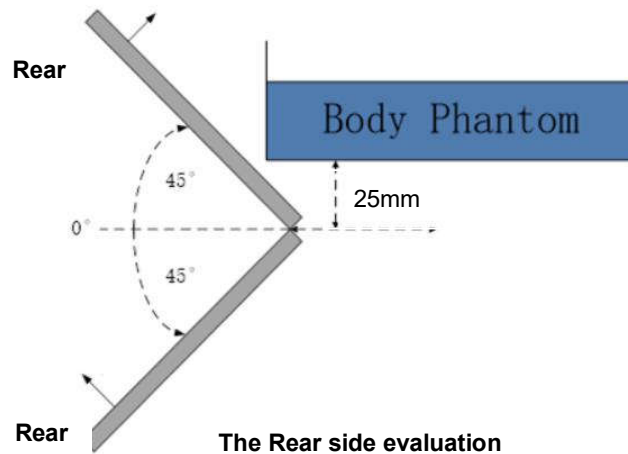
sensor triggered (Yes or No)											
Distance(mm)	25	24	23	22	21	20	19	18	17	16	15
Main antenna	No	No	No	No	No	Yes	Yes	Yes	Yes	Yes	Yes

Moving device away from the phantom:

sensor triggered (Yes or No)											
Distance(mm)	15	16	17	18	19	20	21	22	23	24	25
Main antenna	Yes	Yes	Yes	Yes	Yes	Yes	No	No	No	No	No

Based on the most conservative measured triggering distance of 20 mm, additional SAR measurements were required at 19 mm in the top side

The influence of table tilt angles to proximity sensor triggering is determined by positioning each edge that contains a transmitting antenna, perpendicular to the flat phantom, at the smallest sensor triggering test distance by rotating the device around the edge next to the phantom in $\leq 10^\circ$ increments until the tablet is $\pm 45^\circ$ or more from the vertical position at 0° .



Based on the above evaluation, we come to the conclusion that the sensor triggering is not released and normal maximum output power is not restored within the $\pm 45^\circ$ range at the smallest sensor triggering test distance declared by manufacturer.



ANNEX L: Spot Check Test

As the test lab for T5711 from Shanghai Sunmi Technology Co.,Ltd., we, Shenzhen Academy of Information and Communications Technology, declare on our sole responsibility that, according to “Justification Letter” provided by applicant, only the Spot check test should be performed. The test results are as below.

L.1. Internal Identification of EUT used during the spot check test

EUT ID*	IMEI	HW Version	SW Version	Receipt Date
UT12aa	865506060002888	Bgf6d	SP6610A_V003_20230409_sunmi_CS	2023-05-25

L.2. Measurement results

Power Level	RF Exposure Conditions	Frequency Band	Channel Number	Frequency (MHz)	Mode/RB	Test Position	Distance	Note	EUT Measured Power (dBm)	Tune up (dBm)	Measured SAR 1g (W/kg)	Calculated SAR 1g (W/kg)	Measured SAR 10g (W/kg)	Calculated SAR 10g (W/kg)	Power Drift
C1	Body	GSM850	251	848.8	GPRS(3TX)	Rear	0mm	Original data	25.86	26.0	0.983	1.02	0.587	0.61	0.07
C1	Body	GSM850	251	848.8	GPRS(3TX)	Rear	0mm	Spot check data	25.86	26.0	0.565	0.58	0.318	0.33	0.06
C1	Body	WCDMA Band 2	9400	1880.0	RMC	Rear	0mm	Original data	17.57	18.5	0.991	1.23	0.562	0.70	0.01
C1	Body	WCDMA Band 2	9400	1880.0	RMC	Rear	0mm	Spot check data	17.57	18.5	0.981	1.22	0.527	0.65	0.10
C1	Body	WCDMA Band 4	1513	1752.6	RMC	Rear	0mm	Original data	17.45	18.5	0.956	1.22	0.504	0.64	0.05
C1	Body	WCDMA Band 4	1513	1752.6	RMC	Rear	0mm	Spot check data	17.45	18.5	0.918	1.17	0.482	0.61	-0.03
C1	Body	WCDMA Band 5	4233	846.6	RMC	Rear	0mm	Original data	21.73	22.5	0.916	1.09	0.546	0.65	0.09
C1	Body	WCDMA Band 5	4233	846.6	RMC	Rear	0mm	Spot check data	21.73	22.5	0.915	1.09	0.535	0.64	0.17
C1	Body	LTE Band 7	20850	2510.0	1RB99	Rear	0mm	Original data	15.49	16.5	1.090	1.38	0.516	0.65	-0.06
C1	Body	LTE Band 7	20850	2510.0	1RB99	Rear	0mm	Spot check data	15.49	16.5	0.911	1.15	0.418	0.53	0.08
C1	Body	LTE Band 12	23095	707.5	1RB24	Rear	0mm	Original data	22.79	23.5	0.983	1.16	0.615	0.72	0.02
C1	Body	LTE Band 12	23095	707.5	1RB24	Rear	0mm	Spot check data	22.79	23.5	0.884	1.04	0.507	0.60	0.05
B1	Body	LTE Band 13	23230	782.0	1RB24	Rear	0mm	Original data	23.98	24.5	0.739	0.83	0.455	0.51	0.19
B1	Body	LTE Band 13	23230	782.0	1RB24	Rear	0mm	Spot check data	23.98	24.5	0.718	0.81	0.400	0.45	0.08
B1	Body	LTE Band 14	23330	793.0	1RB24	Rear	0mm	Original data	23.84	24.5	0.919	1.07	0.529	0.62	0.19
B1	Body	LTE Band 14	23330	793.0	1RB24	Rear	0mm	Spot check data	23.84	24.5	0.826	0.96	0.454	0.53	0.18
C1	Body	LTE Band 25	26140	1860.0	1RB0	Rear	0mm	Original data	17.02	18.0	0.937	1.17	0.539	0.68	0.01
C1	Body	LTE Band 25	26140	1860.0	1RB0	Rear	0mm	Spot check data	17.02	18.0	0.920	1.15	0.479	0.60	-0.08
C1	Body	LTE Band 26	26965	841.5	1RB0	Rear	0mm	Original data	22.32	23.0	1.080	1.26	0.652	0.76	0.04
C1	Body	LTE Band 26	26965	841.5	1RB0	Rear	0mm	Spot check data	22.32	23.0	0.952	1.11	0.542	0.63	0.14
C1	Body	LTE Band 30	27710	2310.0	1RB24	Rear	0mm	Original data	15.78	16.5	0.938	1.11	0.510	0.60	0.07
C1	Body	LTE Band 30	27710	2310.0	1RB24	Rear	0mm	Spot check data	15.78	16.5	0.863	1.02	0.437	0.52	0.02
C1	Body	LTE Band 66	132322	1745.0	1RB0	Rear	0mm	Original data	18.73	19.5	1.090	1.30	0.580	0.69	0.01
C1	Body	LTE Band 66	132322	1745.0	1RB0	Rear	0mm	Spot check data	18.73	19.5	1.010	1.21	0.508	0.61	-0.02
C1	Body	LTE Band 71	133372	688.0	1RB50	Rear	0mm	Original data	22.98	24.0	1.020	1.29	0.623	0.79	0.08
C1	Body	LTE Band 71	133372	688.0	1RB50	Rear	0mm	Spot check data	22.98	24.0	0.625	0.79	0.361	0.46	0.11
C1	Body	LTE Band 41	40620	2593.0	1RB50	Rear	0mm	Original data	17.21	18.0	0.966	1.16	0.462	0.55	-0.07
C1	Body	LTE Band 41	40620	2593.0	1RB50	Rear	0mm	Spot check data	17.21	18.0	0.777	0.93	0.342	0.41	0.11
/	Body	Bluetooth	78	2480.0	GFSK	Rear	0mm	Original data	10.52	11.5	<0.01	<0.01	<0.01	<0.01	/
/	Body	Bluetooth	78	2480.0	GFSK	Rear	0mm	Spot check data	10.52	11.5	<0.01	<0.01	<0.01	<0.01	/
/	Body	WLAN 2.4GHz	11	2462.0	802.11b	Rear	0mm	Original data	15.76	16.5	0.048	0.06	0.023	0.03	0.06
/	Body	WLAN 2.4GHz	11	2462.0	802.11b	Rear	0mm	Spot check data	15.76	16.5	0.113	0.13	0.056	0.07	0.04
/	Body	U-NII-2A	64	5320.0	802.11a	Rear	0mm	Original data	14.01	15.0	0.142	0.18	0.064	0.08	0.03
/	Body	U-NII-2A	64	5320.0	802.11a	Rear	0mm	Spot check data	14.01	15.0	0.155	0.19	0.038	0.05	-0.07

L.3. Graph Results for Spot Check

GSM 850 Body

Date: 2023-6-16

Electronics: DAE4 Sn786

Medium: Head 835MHz

Medium parameters used (interpolated): $f = 848.8$ MHz; $\sigma = 0.941$ S/m; $\epsilon_r = 40.57$; $\rho = 1000$ kg/m³

Communication System: UID 0, 3 slot GPRS (0) Frequency: 848.8 MHz Duty Cycle: 1:2.67

Probe: EX3DV4 - SN7683 ConvF (10.75, 10.75, 10.75)

Rear Side High/Area Scan (61x61x1): Interpolated grid: $dx=1.500$ mm, $dy=1.500$ mm

Maximum value of SAR (interpolated) = 0.906 W/kg

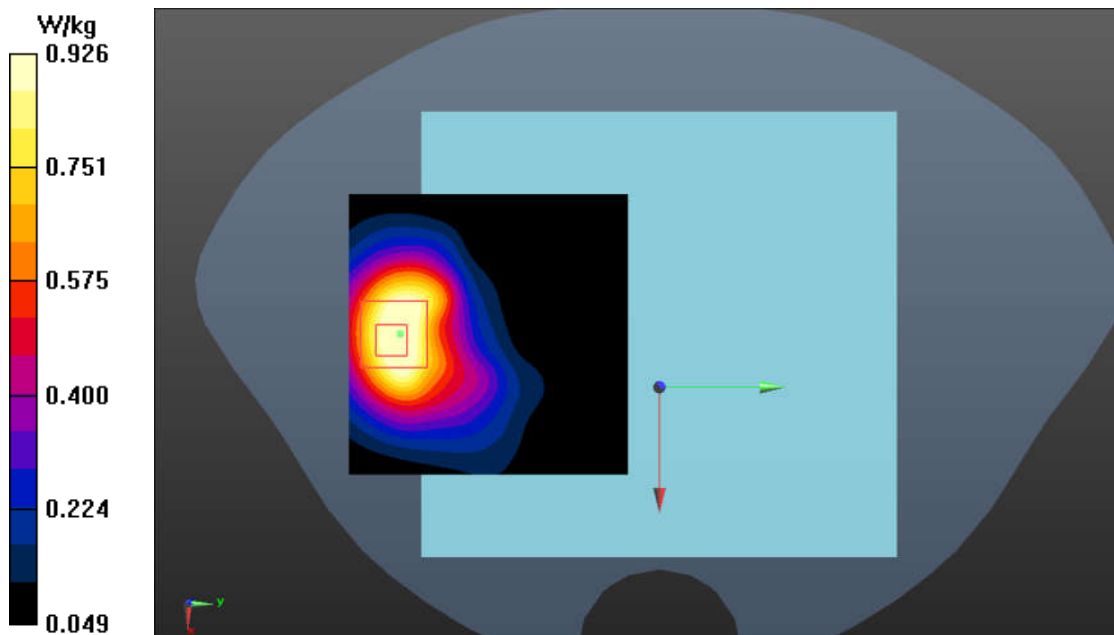
Rear Side High/Zoom Scan (5x5x7)/Cube 0: Measurement grid: $dx=8$ mm, $dy=8$ mm, $dz=5$ mm

Reference Value = 3.124 V/m; Power Drift = 0.06 dB

Peak SAR (extrapolated) = 1.13 W/kg

SAR(1 g) = 0.565 W/kg; SAR(10 g) = 0.318 W/kg

Maximum value of SAR (measured) = 0.926 W/kg





No. 25T04N001822-011-SAR

WCDMA Band 2 Body

Date: 2023-6-20

Electronics: DAE4 Sn786

Medium: Head 1900MHz

Medium parameters used: $f = 1880$ MHz; $\sigma = 1.364$ S/m; $\epsilon_r = 39.312$; $\rho = 1000$ kg/m³

Communication System: UID 0, WCDMA (0) Frequency: 1880 MHz Duty Cycle: 1:1

Probe: EX3DV4 - SN7683 ConvF (8.55, 8.55, 8.55)

Rear Side Middle/Area Scan (61x61x1): Interpolated grid: dx=1.500 mm, dy=1.500 mm

Maximum value of SAR (interpolated) = 1.15 W/kg

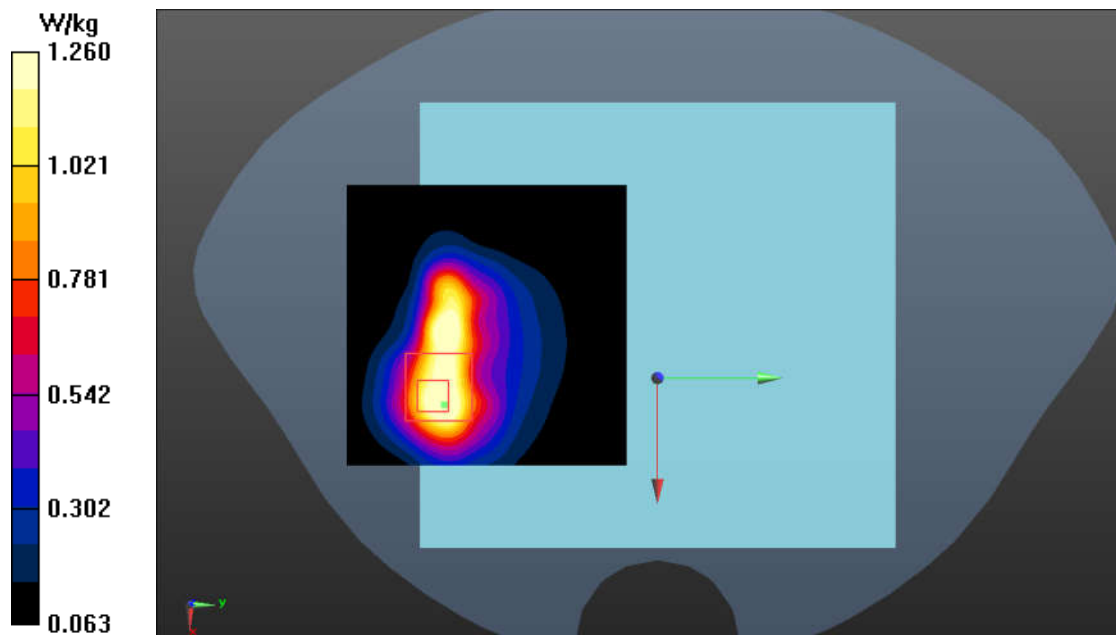
Rear Side Middle/Zoom Scan (5x5x7)/Cube 0: Measurement grid: dx=8mm, dy=8mm, dz=5mm

Reference Value = 2.281 V/m; Power Drift = 0.10 dB

Peak SAR (extrapolated) = 1.62 W/kg

SAR(1 g) = 0.981 W/kg; SAR(10 g) = 0.527 W/kg

Maximum value of SAR (measured) = 1.26 W/kg





No. 25T04N001822-011-SAR

WCDMA Band 4 Body

Date: 2023-6-18

Electronics: DAE4 Sn786

Medium: Head 1750MHz

Medium parameters used (interpolated): $f = 1752.6$ MHz; $\sigma = 1.361$ S/m; $\epsilon_r = 40.563$; $\rho = 1000$ kg/m³

Communication System: UID 0, WCDMA (0) Frequency: 1752.6 MHz Duty Cycle: 1:1

Probe: EX3DV4 - SN7683 ConvF (8.81, 8.81, 8.81)

Rear Side High/Area Scan (61x61x1): Interpolated grid: dx=1.500 mm, dy=1.500 mm

Maximum value of SAR (interpolated) = 1.32 W/kg

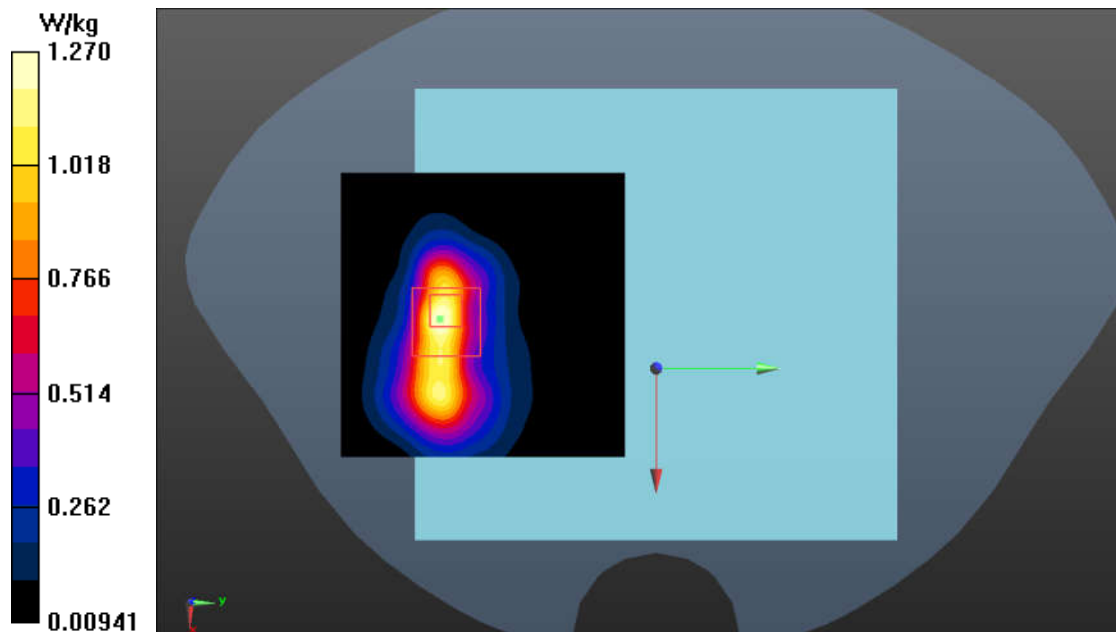
Rear Side High/Zoom Scan (5x5x7)/Cube 0: Measurement grid: dx=8mm, dy=8mm, dz=5mm

Reference Value = 3.017 V/m; Power Drift = -0.03 dB

Peak SAR (extrapolated) = 1.49 W/kg

SAR(1 g) = 0.918 W/kg; SAR(10 g) = 0.482 W/kg

Maximum value of SAR (measured) = 1.27 W/kg





No. 25T04N001822-011-SAR

WCDMA Band 5 Body

Date: 2023-6-16

Electronics: DAE4 Sn786

Medium: Head 835MHz

Medium parameters used (interpolated): $f = 846.6$ MHz; $\sigma = 0.939$ S/m; $\epsilon_r = 40.597$; $\rho = 1000$ kg/m³

Communication System: UID 0, WCDMA (0) Frequency: 846.6 MHz Duty Cycle: 1:1

Probe: EX3DV4 - SN7683 ConvF (10.75, 10.75, 10.75)

Rear Side High/Area Scan (61x61x1): Interpolated grid: $dx=1.500$ mm, $dy=1.500$ mm

Maximum value of SAR (interpolated) = 1.14 W/kg

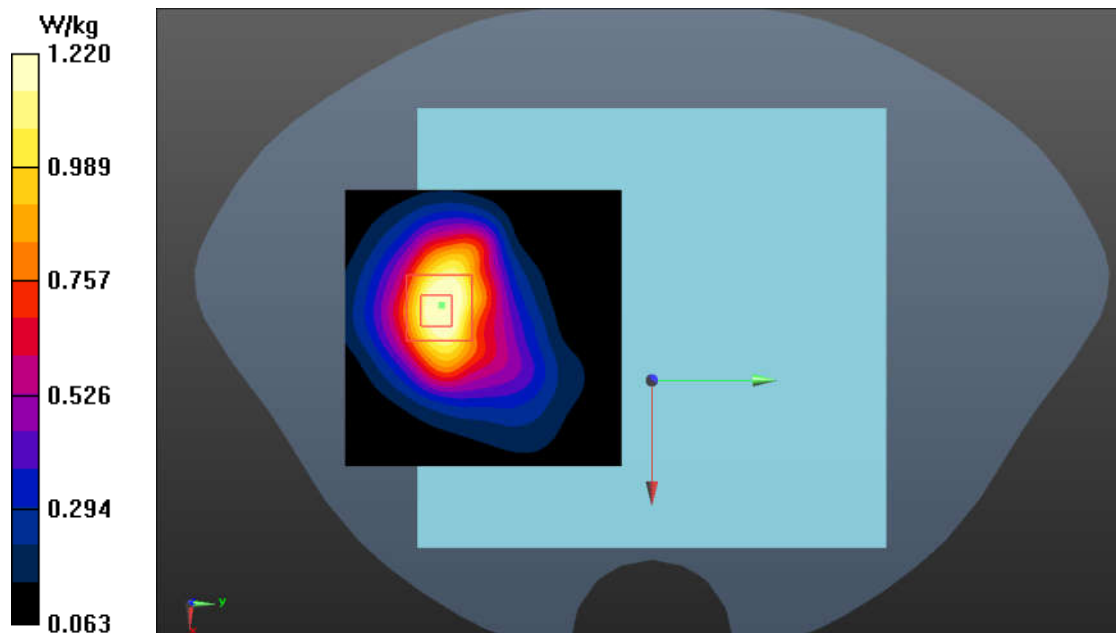
Rear Side High/Zoom Scan (5x5x7)/Cube 0: Measurement grid: $dx=8$ mm, $dy=8$ mm, $dz=5$ mm

Reference Value = 5.642 V/m; Power Drift = 0.17 dB

Peak SAR (extrapolated) = 1.46 W/kg

SAR(1 g) = 0.915 W/kg; SAR(10 g) = 0.535 W/kg

Maximum value of SAR (measured) = 1.22 W/kg





No. 25T04N001822-011-SAR

LTE Band 7 Body

Date: 2023-6-26

Electronics: DAE4 Sn786

Medium: Head 2550MHz

Medium parameters used: $f = 2510$ MHz; $\sigma = 1.894$ S/m; $\epsilon_r = 38.659$; $\rho = 1000$ kg/m³

Communication System: UID 0, LTE_FDD (0) Frequency: 2510 MHz Duty Cycle: 1:1

Probe: EX3DV4 - SN7683 ConvF (8.02, 8.02, 8.02)

Rear Side Low 1RB99/Area Scan (91x91x1): Interpolated grid: dx=1.000 mm, dy=1.000 mm

Maximum value of SAR (interpolated) = 1.21 W/kg

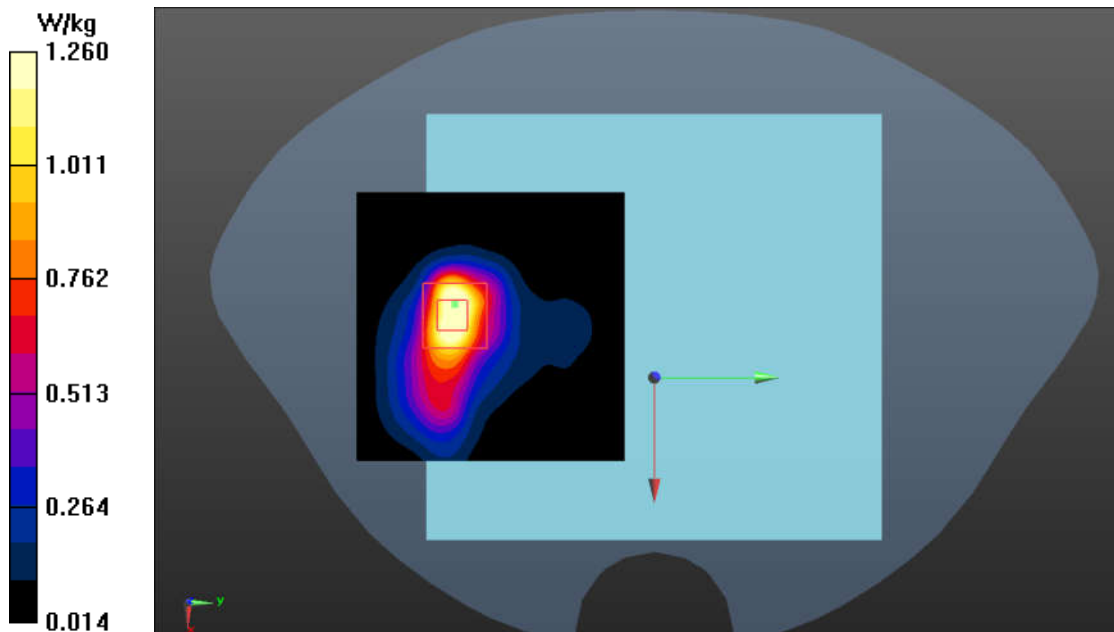
Rear Side Low 1RB99/Zoom Scan (7x7x7)/Cube 0: Measurement grid: dx=5mm, dy=5mm, dz=5mm

Reference Value = 0.4850 V/m; Power Drift = 0.08 dB

Peak SAR (extrapolated) = 1.73 W/kg

SAR(1 g) = 0.911 W/kg; SAR(10 g) = 0.418 W/kg

Maximum value of SAR (measured) = 1.26 W/kg





No. 25T04N001822-011-SAR

LTE Band 12 Body

Date: 2023-6-19

Electronics: DAE4 Sn786

Medium: Head 750MHz

Medium parameters used (interpolated): $f = 707.5$ MHz; $\sigma = 0.886$ S/m; $\epsilon_r = 41.395$; $\rho = 1000$ kg/m³

Communication System: UID 0, LTE_FDD (0) Frequency: 707.5 MHz Duty Cycle: 1:1

Probe: EX3DV4 - SN7683 ConvF (10.75, 10.75, 10.75)

Rear Side Middle 1RB24/Area Scan (61x71x1): Interpolated grid: dx=1.500 mm, dy=1.500 mm

Maximum value of SAR (interpolated) = 1.22 W/kg

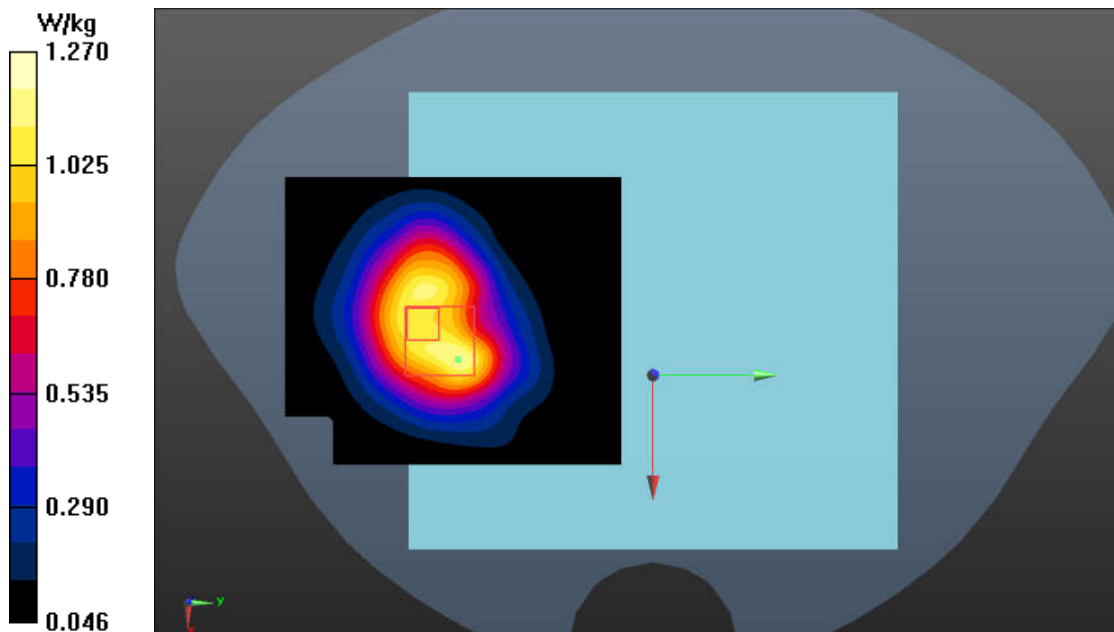
Rear Side Middle 1RB24/Zoom Scan (5x5x7)/Cube 0: Measurement grid: dx=8mm, dy=8mm, dz=5mm

Reference Value = 4.638 V/m; Power Drift = 0.05 dB

Peak SAR (extrapolated) = 1.59 W/kg

SAR(1 g) = 0.884 W/kg; SAR(10 g) = 0.507 W/kg

Maximum value of SAR (measured) = 1.27 W/kg





No. 25T04N001822-011-SAR

LTE Band 13 Body

Date: 2023-6-19

Electronics: DAE4 Sn786

Medium: Head 750MHz

Medium parameters used: $f = 782 \text{ MHz}$; $\sigma = 0.923 \text{ S/m}$; $\epsilon_r = 40.501$; $\rho = 1000 \text{ kg/m}^3$

Communication System: UID 0, LTE_FDD (0) Frequency: 782 MHz Duty Cycle: 1:1

Probe: EX3DV4 - SN7683 ConvF (10.75, 10.75, 10.75)

Rear Side Middle 1RB24/Area Scan (61x61x1): Interpolated grid: $dx=1.500 \text{ mm}$, $dy=1.500 \text{ mm}$

Maximum value of SAR (interpolated) = 0.933 W/kg

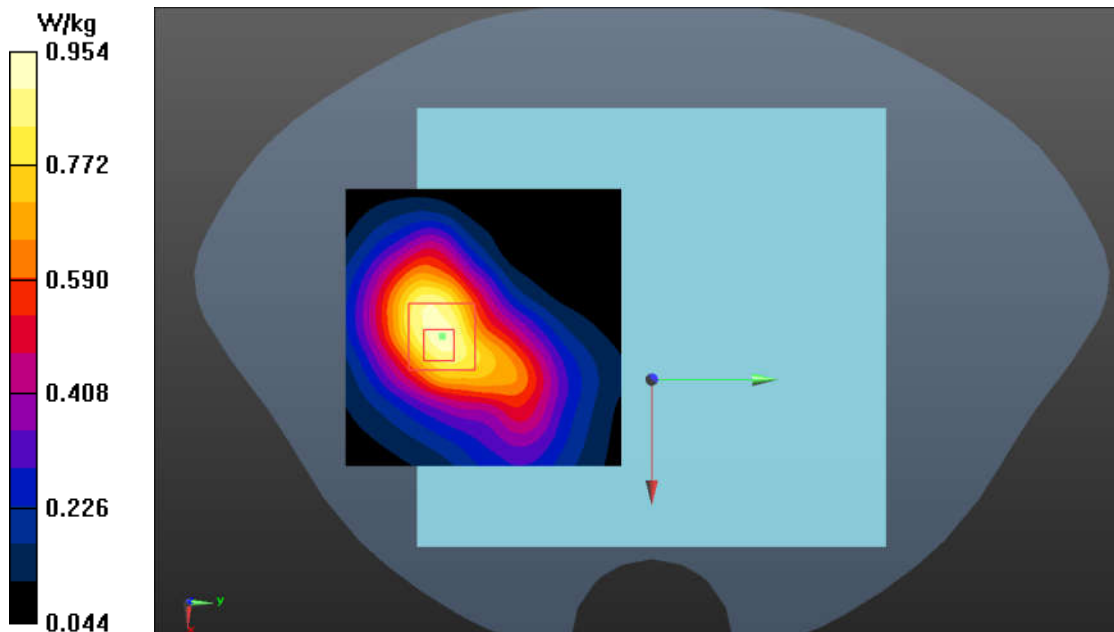
Rear Side Middle 1RB24/Zoom Scan (5x5x7)/Cube 0: Measurement grid: $dx=8\text{mm}$, $dy=8\text{mm}$, $dz=5\text{mm}$

Reference Value = 5.285 V/m ; Power Drift = 0.08 dB

Peak SAR (extrapolated) = 1.21 W/kg

SAR(1 g) = 0.718 W/kg ; SAR(10 g) = 0.400 W/kg

Maximum value of SAR (measured) = 0.954 W/kg





No. 25T04N001822-011-SAR

LTE Band 14 Body

Date: 2023-6-19

Electronics: DAE4 Sn786

Medium: Head 750MHz

Medium parameters used (interpolated): $f = 793$ MHz; $\sigma = 0.928$ S/m; $\epsilon_r = 40.369$; $\rho = 1000$ kg/m³

Communication System: UID 0, LTE_FDD (0) Frequency: 793 MHz Duty Cycle: 1:1

Probe: EX3DV4 - SN7683 ConvF (10.75, 10.75, 10.75)

Rear Side Middle 1RB24/Area Scan (61x61x1): Interpolated grid: dx=1.500 mm, dy=1.500 mm

Maximum value of SAR (interpolated) = 1.09 W/kg

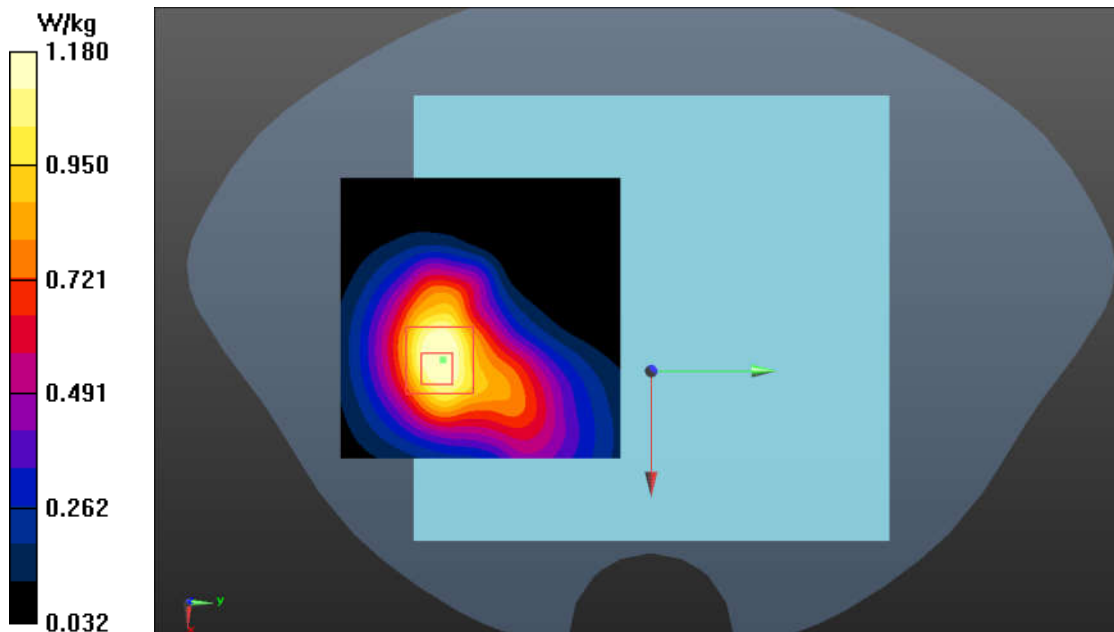
Rear Side Middle 1RB24/Zoom Scan (5x5x7)/Cube 0: Measurement grid: dx=8mm, dy=8mm, dz=5mm

Reference Value = 3.854 V/m; Power Drift = 0.18 dB

Peak SAR (extrapolated) = 1.53 W/kg

SAR(1 g) = 0.826 W/kg; SAR(10 g) = 0.454 W/kg

Maximum value of SAR (measured) = 1.18 W/kg





No. 25T04N001822-011-SAR

LTE Band 25 Body

Date: 2023-6-20

Electronics: DAE4 Sn786

Medium: Head 1900MHz

Medium parameters used: $f = 1860$ MHz; $\sigma = 1.347$ S/m; $\epsilon_r = 39.391$; $\rho = 1000$ kg/m³

Communication System: UID 0, LTE_FDD (0) Frequency: 1860 MHz Duty Cycle: 1:1

Probe: EX3DV4 - SN7683 ConvF (8.55, 8.55, 8.55)

Rear Side Low 1RB0/Area Scan (61x61x1): Interpolated grid: dx=1.500 mm, dy=1.500 mm

Maximum value of SAR (interpolated) = 1.27 W/kg

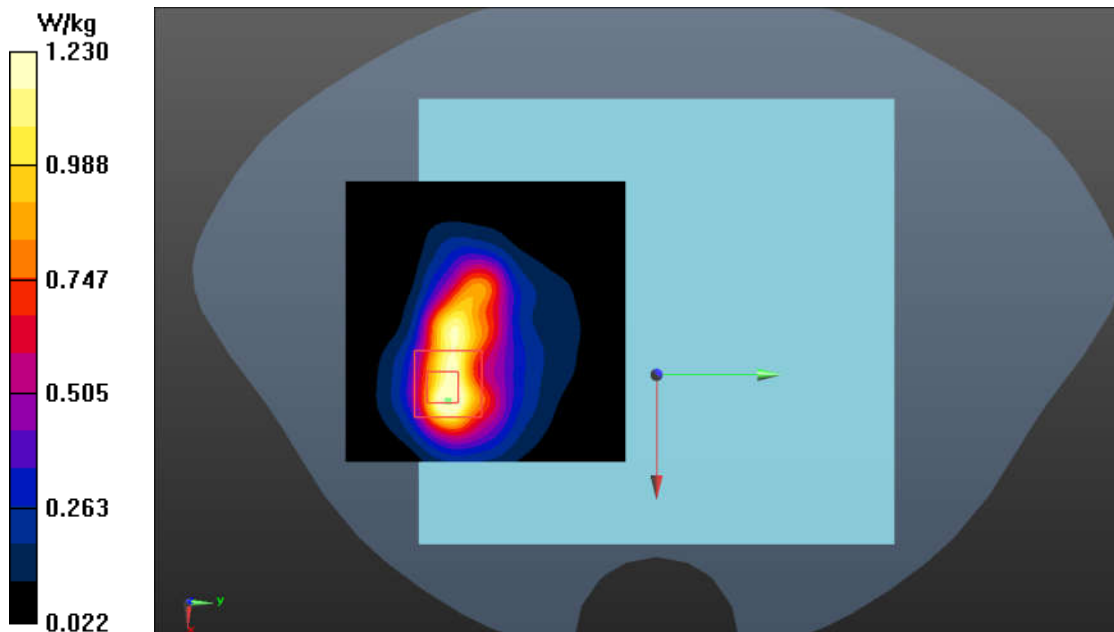
Rear Side Low 1RB0/Zoom Scan (5x5x7)/Cube 0: Measurement grid: dx=8mm, dy=8mm, dz=5mm

Reference Value = 2.776 V/m; Power Drift = -0.08 dB

Peak SAR (extrapolated) = 1.52 W/kg

SAR(1 g) = 0.920 W/kg; SAR(10 g) = 0.479 W/kg

Maximum value of SAR (measured) = 1.23 W/kg





No. 25T04N001822-011-SAR

LTE Band 26 Body

Date: 2023-6-16

Electronics: DAE4 Sn786

Medium: Head 835MHz

Medium parameters used (interpolated): $f = 841.5$ MHz; $\sigma = 0.934$ S/m; $\epsilon_r = 40.658$; $\rho = 1000$ kg/m³

Communication System: UID 0, LTE_FDD (0) Frequency: 841.5 MHz Duty Cycle: 1:1

Probe: EX3DV4 - SN7683 ConvF (10.75, 10.75, 10.75)

Rear Side High 1RB0/Area Scan (61x61x1): Interpolated grid: $dx=1.500$ mm, $dy=1.500$ mm

Maximum value of SAR (interpolated) = 1.25 W/kg

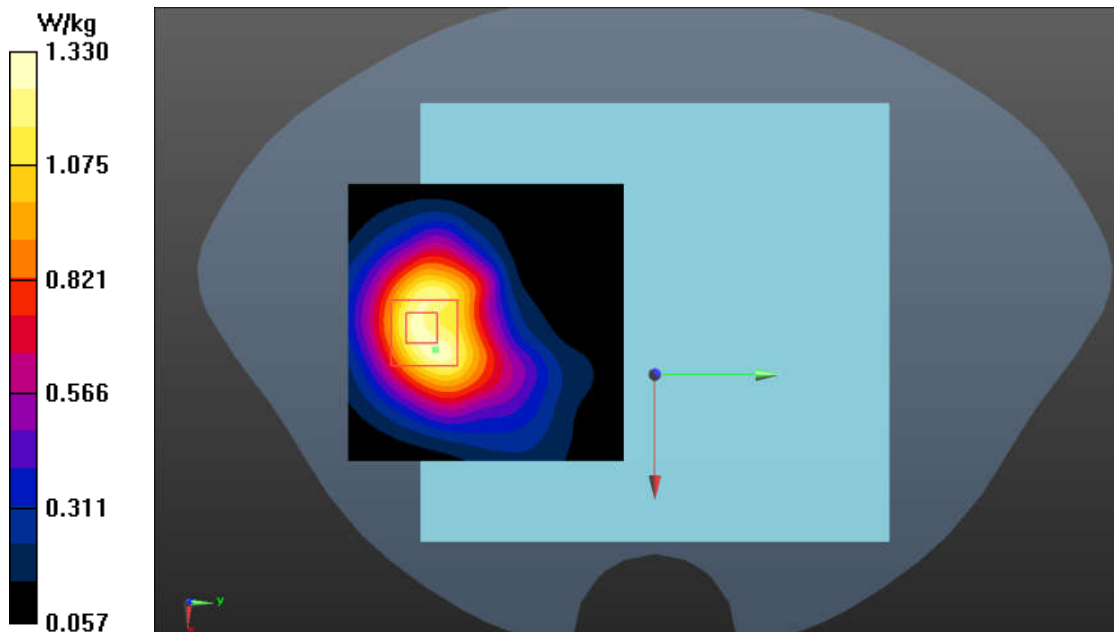
Rear Side High 1RB0/Zoom Scan (5x5x7)/Cube 0: Measurement grid: $dx=8$ mm, $dy=8$ mm, $dz=5$ mm

Reference Value = 4.916 V/m; Power Drift = 0.14 dB

Peak SAR (extrapolated) = 1.69 W/kg

SAR(1 g) = 0.952 W/kg; SAR(10 g) = 0.542 W/kg

Maximum value of SAR (measured) = 1.33 W/kg





No. 25T04N001822-011-SAR

LTE Band 30 Body

Date: 2023-6-22

Electronics: DAE4 Sn786

Medium: Head 2300MHz

Medium parameters used: $f = 2310$ MHz; $\sigma = 1.66$ S/m; $\epsilon_r = 39.882$; $\rho = 1000$ kg/m³

Communication System: UID 0, LTE_FDD (0) Frequency: 2310 MHz Duty Cycle: 1:1

Probe: EX3DV4 - SN7683 ConvF (8.30, 8.30, 8.30)

Rear Side Middle 1RB24/Area Scan (91x91x1): Interpolated grid: dx=1.000 mm, dy=1.000 mm

Maximum value of SAR (interpolated) = 1.13 W/kg

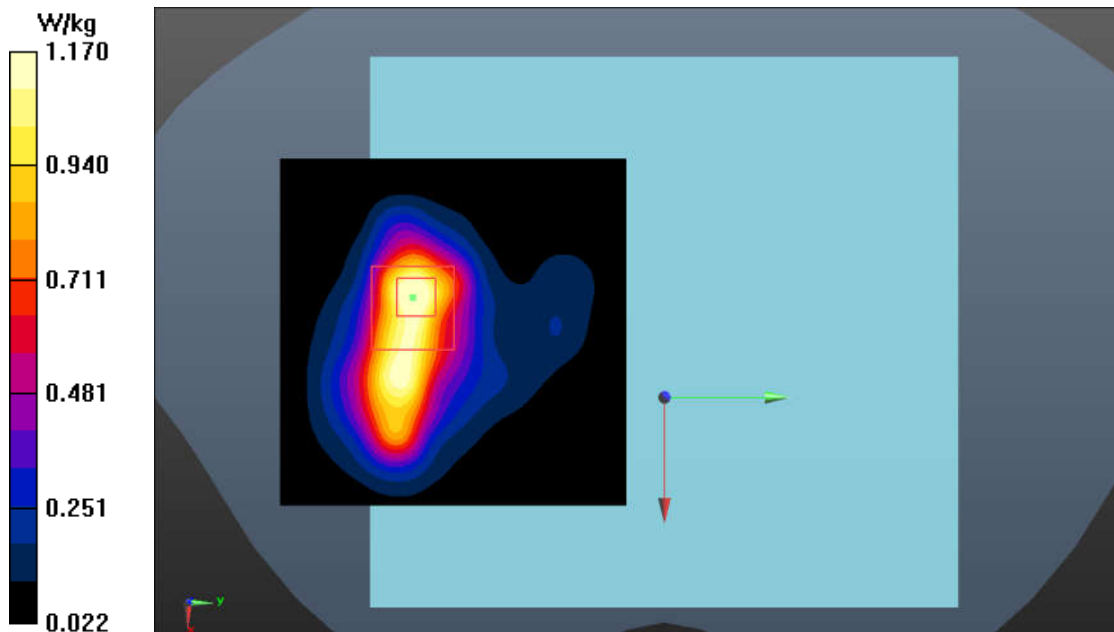
Rear Side Middle 1RB24/Zoom Scan (7x7x7)/Cube 0: Measurement grid: dx=5mm, dy=5mm, dz=5mm

Reference Value = 1.824 V/m; Power Drift = 0.02 dB

Peak SAR (extrapolated) = 1.58 W/kg

SAR(1 g) = 0.863 W/kg; SAR(10 g) = 0.437 W/kg

Maximum value of SAR (measured) = 1.17 W/kg





No. 25T04N001822-011-SAR

LTE Band 66 Body

Date: 2023-6-18

Electronics: DAE4 Sn786

Medium: Head 1750MHz

Medium parameters used (interpolated): $f = 1745$ MHz; $\sigma = 1.355$ S/m; $\epsilon_r = 40.593$; $\rho = 1000$ kg/m³

Communication System: UID 0, LTE_FDD (0) Frequency: 1745 MHz Duty Cycle: 1:1

Probe: EX3DV4 - SN7683 ConvF (8.81, 8.81, 8.81)

Rear Side Middle 1RB0/Area Scan (61x61x1): Interpolated grid: dx=1.500 mm, dy=1.500 mm

Maximum value of SAR (interpolated) = 1.49 W/kg

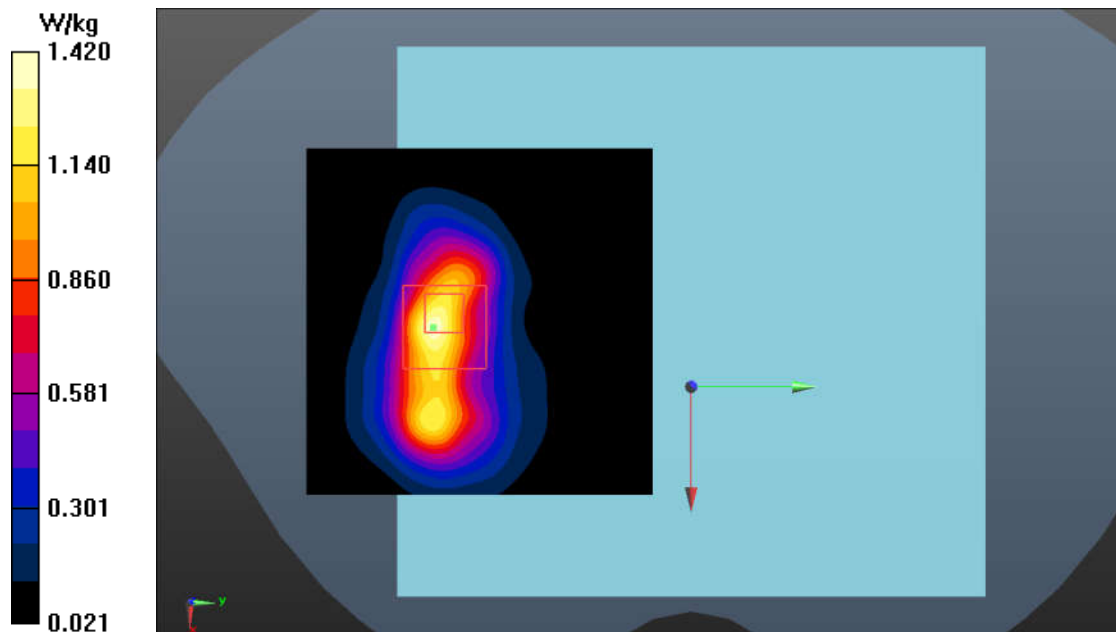
Rear Side Middle 1RB0/Zoom Scan (5x5x7)/Cube 0: Measurement grid: dx=8mm, dy=8mm, dz=5mm

Reference Value = 3.536 V/m; Power Drift = -0.02 dB

Peak SAR (extrapolated) = 1.86 W/kg

SAR(1 g) = 1.01 W/kg; SAR(10 g) = 0.508 W/kg

Maximum value of SAR (measured) = 1.42 W/kg





No. 25T04N001822-011-SAR

LTE Band 71 Body

Date: 2023-6-19

Electronics: DAE4 Sn786

Medium: Head 750MHz

Medium parameters used: $f = 688 \text{ MHz}$; $\sigma = 0.873 \text{ S/m}$; $\epsilon_r = 41.629$; $\rho = 1000 \text{ kg/m}^3$

Communication System: UID 0, LTE_FDD (0) Frequency: 688 MHz Duty Cycle: 1:1

Probe: EX3DV4 - SN7683 ConvF (10.75, 10.75, 10.75)

Rear Side High 1RB50/Area Scan (61x71x1): Interpolated grid: $dx=1.500 \text{ mm}$, $dy=1.500 \text{ mm}$

Maximum value of SAR (interpolated) = 0.831 W/kg

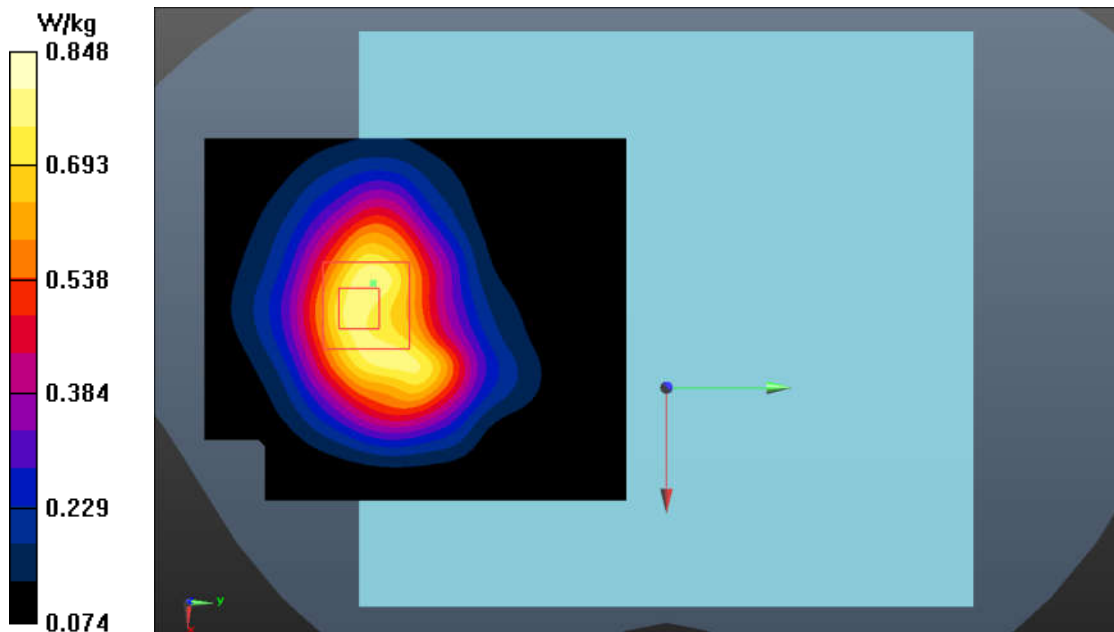
Rear Side High 1RB50/Zoom Scan (5x5x7)/Cube 0: Measurement grid: $dx=8\text{mm}$, $dy=8\text{mm}$, $dz=5\text{mm}$

Reference Value = 3.147 V/m ; Power Drift = 0.11 dB

Peak SAR (extrapolated) = 1.19 W/kg

SAR(1 g) = 0.625 W/kg ; SAR(10 g) = 0.361 W/kg

Maximum value of SAR (measured) = 0.848 W/kg





No. 25T04N001822-011-SAR

LTE Band 41 Body

Date: 2023-6-26

Electronics: DAE4 Sn786

Medium: Head 2550MHz

Medium parameters used (interpolated): $f = 2593$ MHz; $\sigma = 1.992$ S/m; $\epsilon_r = 38.385$; $\rho = 1000$ kg/m³

Communication System: UID 0, LTE_TDD (0) Frequency: 2593 MHz Duty Cycle: 1:1.58

Probe: EX3DV4 - SN7683 ConvF (7.76, 7.76, 7.76)

Rear Side Middle 1RB50/Area Scan (91x91x1): Interpolated grid: dx=1.000 mm, dy=1.000 mm

Maximum value of SAR (interpolated) = 0.957 W/kg

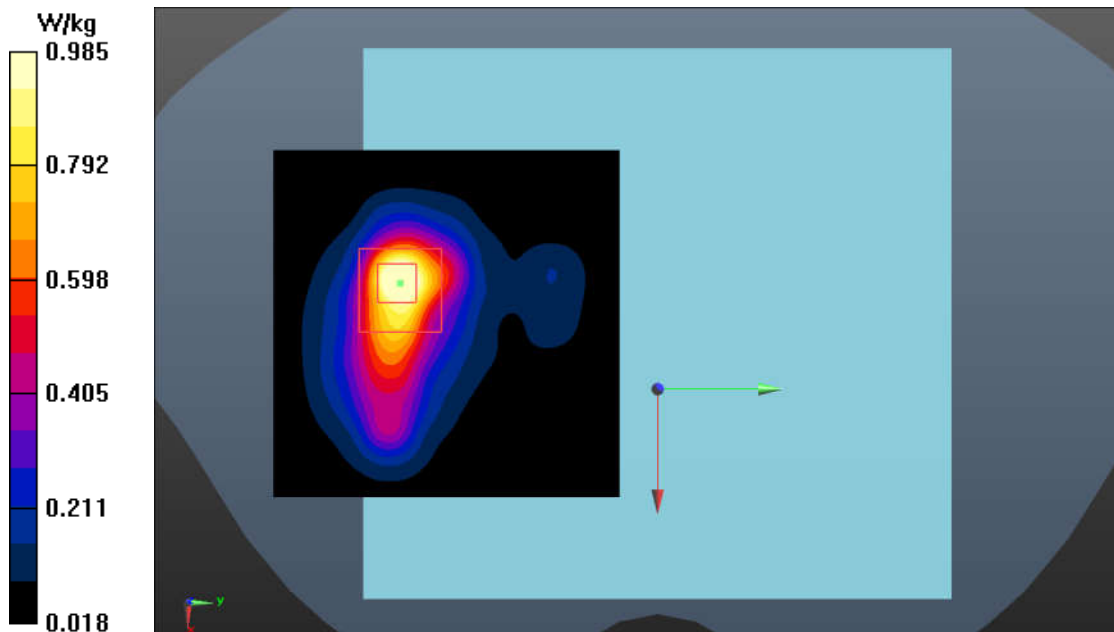
Rear Side Middle 1RB50/Zoom Scan (7x7x7)/Cube 0: Measurement grid: dx=5mm, dy=5mm, dz=5mm

Reference Value = 1.645 V/m; Power Drift = 0.11 dB

Peak SAR (extrapolated) = 1.48 W/kg

SAR(1 g) = 0.777 W/kg; SAR(10 g) = 0.342 W/kg

Maximum value of SAR (measured) = 0.985 W/kg





No. 25T04N001822-011-SAR

WLAN 2.4GHz Body

Date: 2023-7-12

Electronics: DAE4 Sn786

Medium: Head 2450MHz

Medium parameters used: $f = 2462 \text{ MHz}$; $\sigma = 1.863 \text{ S/m}$; $\epsilon_r = 38.332$; $\rho = 1000 \text{ kg/m}^3$

Communication System: UID 0, WLAN (0) Frequency: 2462 MHz Duty Cycle: 1:1

Probe: EX3DV4 - SN7683 ConvF (8.02, 8.02, 8.02)

Rear Side Ch.11/Area Scan (111x91x1): Interpolated grid: $dx=1.000 \text{ mm}$, $dy=1.000 \text{ mm}$

Maximum value of SAR (interpolated) = 0.138 W/kg

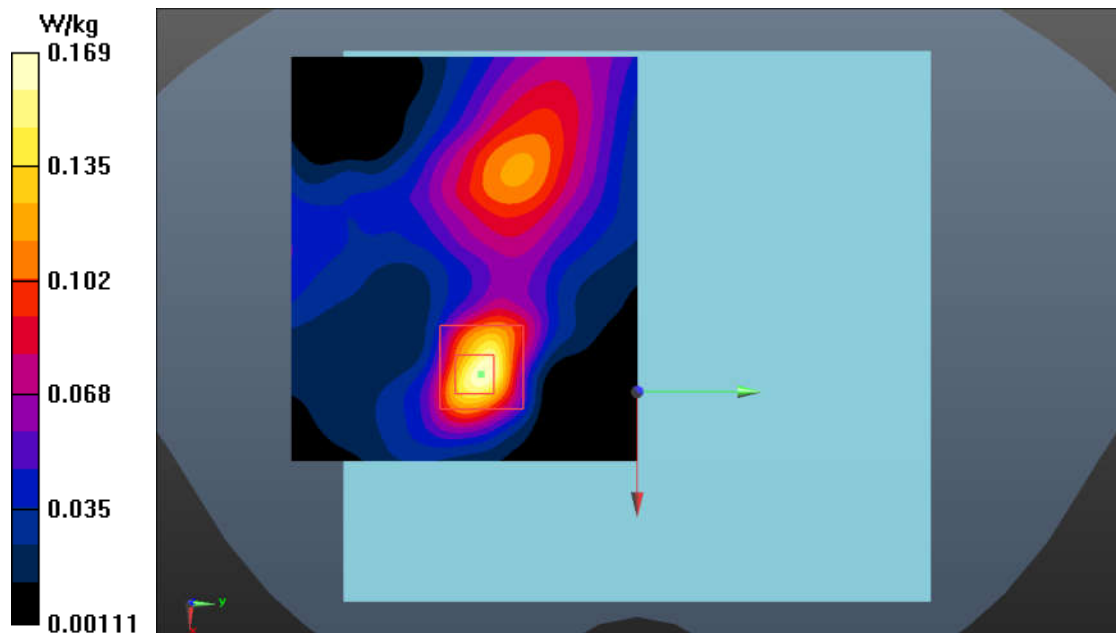
Rear Side Ch.11/Zoom Scan (7x7x7)/Cube 0: Measurement grid: $dx=5\text{mm}$, $dy=5\text{mm}$, $dz=5\text{mm}$

Reference Value = 1.855 V/m ; Power Drift = 0.04 dB

Peak SAR (extrapolated) = 0.217 W/kg

SAR(1 g) = 0.113 W/kg ; SAR(10 g) = 0.056 W/kg

Maximum value of SAR (measured) = 0.169 W/kg





No. 25T04N001822-011-SAR

WLAN 5GHz Body

Date: 2023-7-10

Electronics: DAE4 Sn786

Medium: Head 5250MHz

Medium parameters used: $f = 5320$ MHz; $\sigma = 4.891$ S/m; $\epsilon_r = 34.985$; $\rho = 1000$ kg/m³

Communication System: UID 0, WLAN 5G (0) Frequency: 5320 MHz Duty Cycle: 1:1

Probe: EX3DV4 - SN7683 ConvF (5.72, 5.72, 5.72)

Rear Side Ch.64/Area Scan (111x91x1): Interpolated grid: $dx=1.000$ mm, $dy=1.000$ mm

Maximum value of SAR (interpolated) = 0.309 W/kg

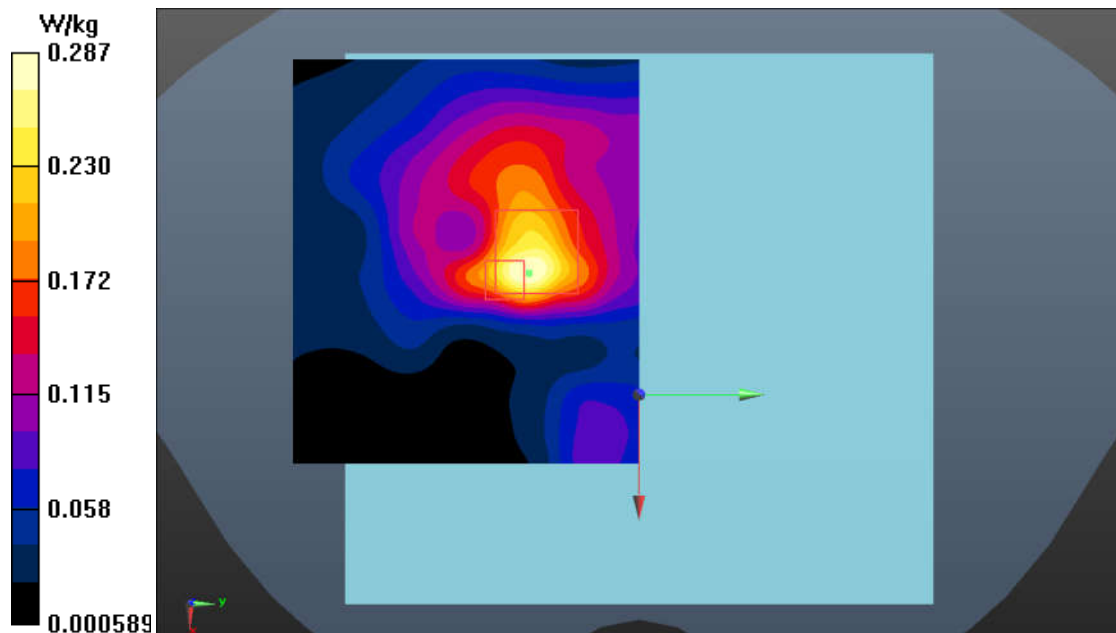
Rear Side Ch.64/Zoom Scan (8x8x21)/Cube 0: Measurement grid: $dx=4$ mm, $dy=4$ mm, $dz=1.4$ mm

Reference Value = 2.741 V/m; Power Drift = -0.07 dB

Peak SAR (extrapolated) = 0.797 W/kg

SAR(1 g) = 0.155 W/kg; SAR(10 g) = 0.038 W/kg

Maximum value of SAR (measured) = 0.287 W/kg



L.4. System Verification Results for Spot Check

750MHz

Date: 2023-6-19

Electronics: DAE4 Sn786

Medium: Head 750MHz

Medium parameters used: $f = 750 \text{ MHz}$; $\sigma = 0.913 \text{ S/m}$; $\epsilon_r = 40.885$; $\rho = 1000 \text{ kg/m}^3$

Communication System: CW Frequency: 750 MHz Duty Cycle: 1:1

Probe: EX3DV4 - SN7683 ConvF (10.75, 10.75, 10.75)

System Validation/Area Scan (81x161x1): Interpolated grid: $dx=1.000 \text{ mm}$, $dy=1.000 \text{ mm}$

Reference Value = 63.527 V/m ; Power Drift = 0.03 dB

SAR(1 g) = 2.18 W/kg ; SAR(10 g) = 1.44 W/kg

Maximum value of SAR (interpolated) = 2.85 W/kg

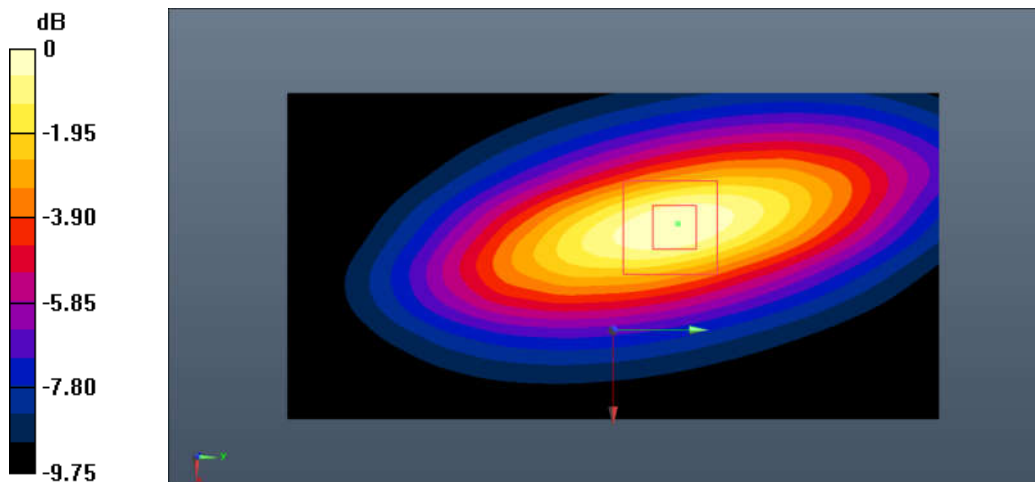
System Validation/Zoom Scan (7x7x7)/Cube 0: Measurement grid: $dx=5\text{mm}$, $dy=5\text{mm}$, $dz=5\text{mm}$

Reference Value = 63.527 V/m ; Power Drift = 0.03 dB

Peak SAR (extrapolated) = 3.52 W/kg

SAR(1 g) = 2.22 W/kg ; SAR(10 g) = 1.46 W/kg

Maximum value of SAR (measured) = 2.89 W/kg



0 dB = 2.89 W/kg = 4.61 dB W/kg



No. 25T04N001822-011-SAR

835MHz

Date: 2023-6-16

Electronics: DAE4 Sn786

Medium: Head 835MHz

Medium parameters used: $f = 835 \text{ MHz}$; $\sigma = 0.928 \text{ S/m}$; $\epsilon_r = 40.736$; $\rho = 1000 \text{ kg/m}^3$

Communication System: CW Frequency: 835 MHz Duty Cycle: 1:1

Probe: EX3DV4 - SN7683 ConvF (10.75, 10.75, 10.75)

System Validation/Area Scan (91x161x1): Interpolated grid: $dx=1.000 \text{ mm}$, $dy=1.000 \text{ mm}$

Reference Value = 63.745 V/m; Power Drift = 0.06 dB

SAR(1 g) = 2.48 W/kg; SAR(10 g) = 1.60 W/kg

Maximum value of SAR (interpolated) = 3.66 W/kg

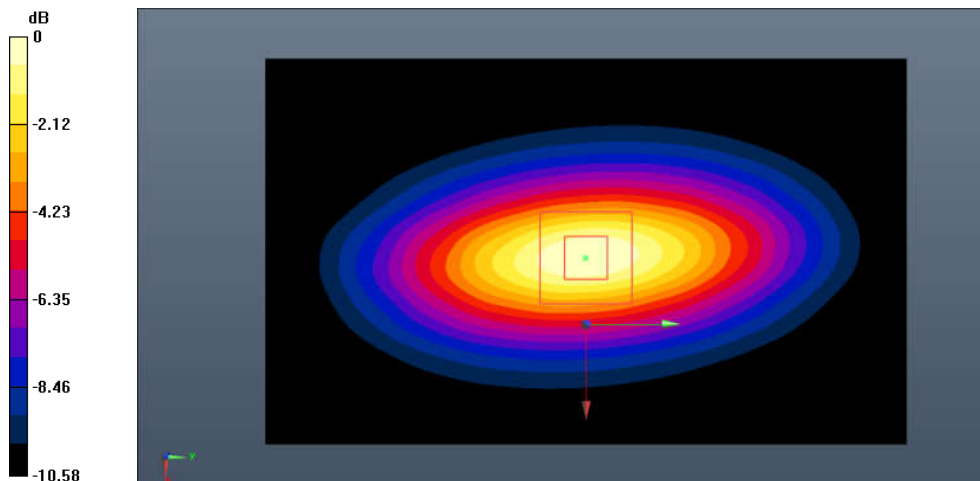
System Validation/Zoom Scan (7x7x7)/Cube 0: Measurement grid: $dx=5\text{mm}$, $dy=5\text{mm}$, $dz=5\text{mm}$

Reference Value = 63.745 V/m; Power Drift = 0.06 dB

Peak SAR (extrapolated) = 4.39 W/kg

SAR(1 g) = 2.52 W/kg; SAR(10 g) = 1.63 W/kg

Maximum value of SAR (measured) = 3.69 W/kg



0 dB = 3.69 W/kg = 5.67 dB W/kg



No. 25T04N001822-011-SAR

1750MHz

Date: 2023-6-18

Electronics: DAE4 Sn786

Medium: Head 1750MHz

Medium parameters used: $f = 1750 \text{ MHz}$; $\sigma = 1.359 \text{ S/m}$; $\epsilon_r = 40.573$; $\rho = 1000 \text{ kg/m}^3$

Communication System: CW Frequency: 1750 MHz Duty Cycle: 1:1

Probe: EX3DV4 - SN7683 ConvF (8.81, 8.81, 8.81)

System Validation/Area Scan (81x121x1): Interpolated grid: $dx=1.000 \text{ mm}$, $dy=1.000 \text{ mm}$

Reference Value = 78.669 V/m; Power Drift = -0.06 dB

SAR(1 g) = 9.10 W/kg; SAR(10 g) = 4.94 W/kg

Maximum value of SAR (interpolated) = 13.0 W/kg

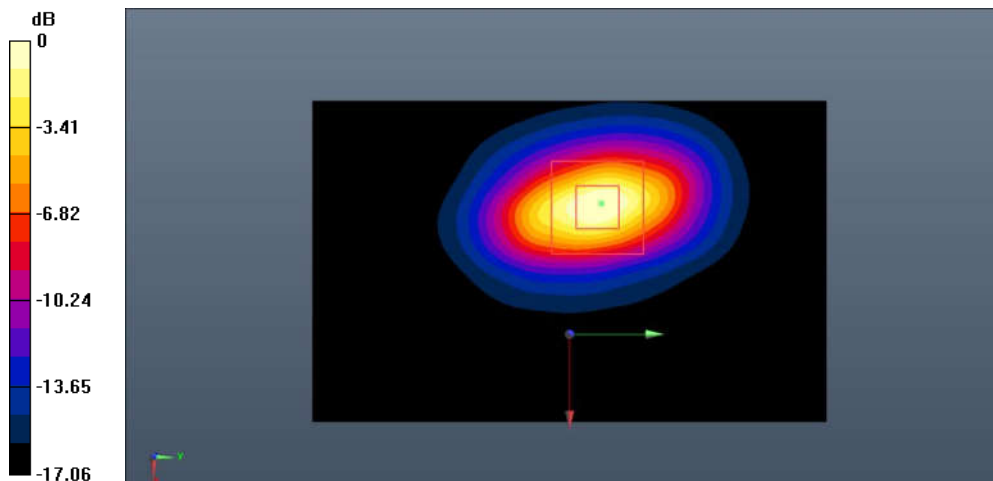
System Validation/Zoom Scan (7x7x7)/Cube0: Measurement grid: $dx=5\text{mm}$, $dy=5\text{mm}$, $dz=5\text{mm}$

Reference Value = 78.669 V/m; Power Drift = -0.06 dB

Peak SAR (extrapolated) = 17.6 W/kg

SAR(1 g) = 8.84 W/kg; SAR(10 g) = 4.82 W/kg

Maximum value of SAR (measured) = 12.8 W/kg



0 dB = 12.8 W/kg = 11.07 dB W/kg



No. 25T04N001822-011-SAR

1900MHz

Date: 2023-6-20

Electronics: DAE4 Sn786

Medium: Head 1900MHz

Medium parameters used: $f = 1900 \text{ MHz}$; $\sigma = 1.382 \text{ S/m}$; $\epsilon_r = 39.234$; $\rho = 1000 \text{ kg/m}^3$

Communication System: CW Frequency: 1900 MHz Duty Cycle: 1:1

Probe: EX3DV4 - SN7683 ConvF (8.55, 8.55, 8.55)

System Validation/Area Scan (91x91x1): Interpolated grid: $dx=1.000 \text{ mm}$, $dy=1.000 \text{ mm}$

Reference Value = 85.123 V/m; Power Drift = -0.11 dB

SAR(1 g) = 9.92 W/kg; SAR(10 g) = 5.14 W/kg

Maximum value of SAR (interpolated) = 15.8 W/kg

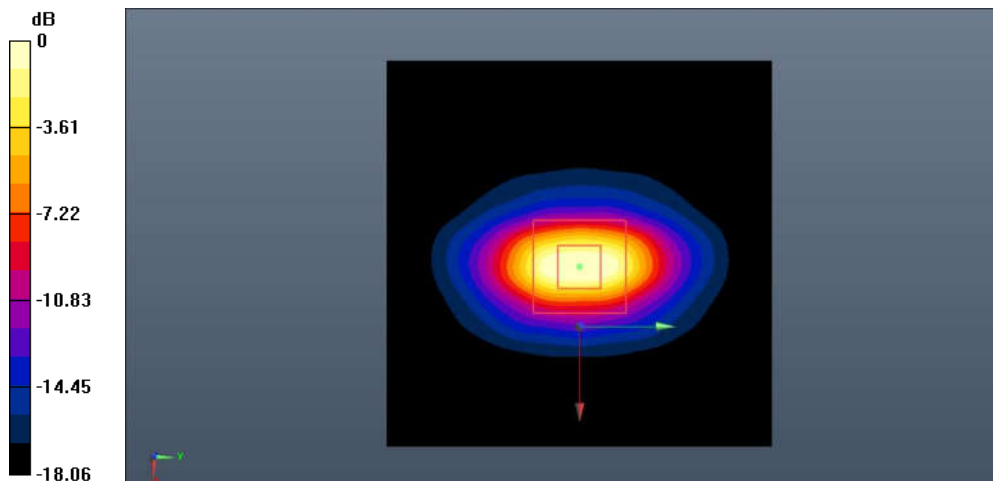
System Validation/Zoom Scan (7x7x7)/Cube0: Measurement grid: $dx=5\text{mm}$, $dy=5\text{mm}$, $dz=5\text{mm}$

Reference Value = 85.123 V/m; Power Drift = -0.11 dB

Peak SAR (extrapolated) = 19.2 W/kg

SAR(1 g) = 9.77 W/kg; SAR(10 g) = 5.05 W/kg

Maximum value of SAR (measured) = 15.5 W/kg





No. 25T04N001822-011-SAR

2300MHz

Date: 2023-6-22

Electronics: DAE4 Sn786

Medium: Head 2300MHz

Medium parameters used: $f = 2300$ MHz; $\sigma = 1.648$ S/m; $\epsilon_r = 39.916$; $\rho = 1000$ kg/m³

Communication System: CW Frequency: 2300 MHz Duty Cycle: 1:1

Probe: EX3DV4 - SN7683 ConvF (8.30, 8.30, 8.30)

System Validation/Area Scan (81x121x1): Interpolated grid: dx=1.000 mm, dy=1.000 mm

Reference Value = 90.556 V/m; Power Drift = -0.05 dB

SAR(1 g) = 11.9 W/kg; SAR(10 g) = 5.67 W/kg

Maximum value of SAR (interpolated) = 20.1 W/kg

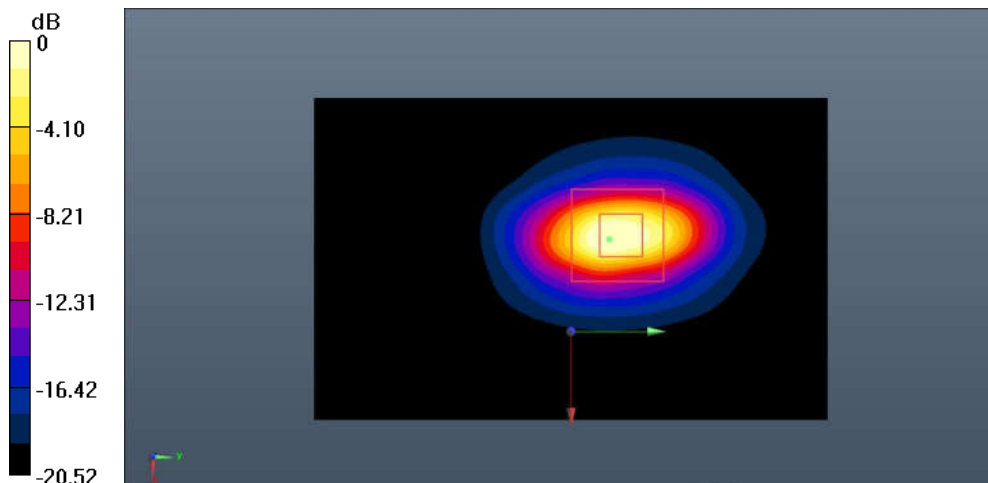
System Validation/Zoom Scan (7x7x7)/Cube0: Measurement grid: dx=5mm, dy=5mm, dz=5mm

Reference Value = 90.556 V/m; Power Drift = -0.05 dB

Peak SAR (extrapolated) = 26.2 W/kg

SAR(1 g) = 11.6 W/kg; SAR(10 g) = 5.54 W/kg

Maximum value of SAR (measured) = 19.8 W/kg



0 dB = 19.8 W/kg = 12.97 dB W/kg



No. 25T04N001822-011-SAR

2450MHz

Date: 2023-7-12

Electronics: DAE4 Sn786

Medium: Head 2450MHz

Medium parameters used: $f = 2450 \text{ MHz}$; $\sigma = 1.849 \text{ S/m}$; $\epsilon_r = 38.372$; $\rho = 1000 \text{ kg/m}^3$

Communication System: CW Frequency: 2450 MHz Duty Cycle: 1:1

Probe: EX3DV4 - SN7683 ConvF (8.02, 8.02, 8.02)

System Validation/Area Scan (81x121x1): Interpolated grid: $dx=1.000 \text{ mm}$, $dy=1.000 \text{ mm}$

Reference Value = 97.065 V/m; Power Drift = 0.12 dB

SAR(1 g) = 13.5 W/kg; SAR(10 g) = 6.07 W/kg

Maximum value of SAR (interpolated) = 22.5 W/kg

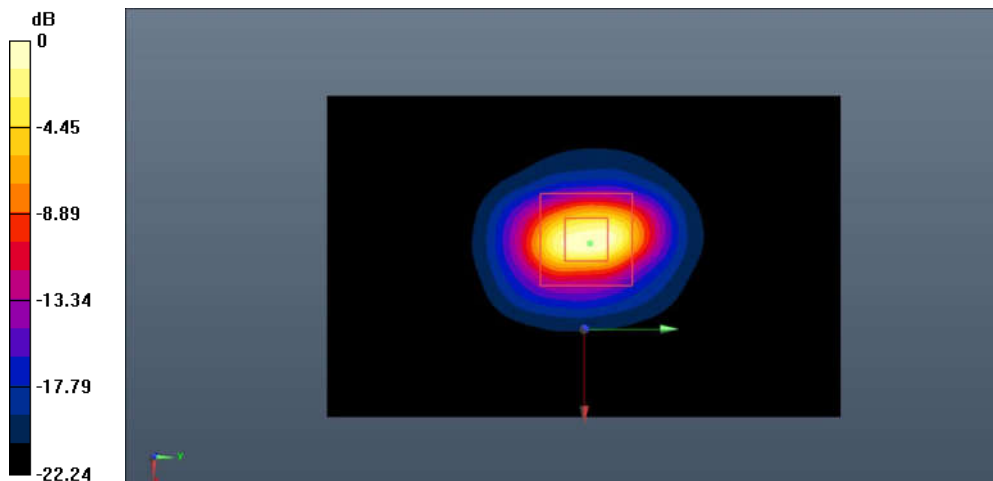
System Validation/Zoom Scan (7x7x7)/Cube0: Measurement grid: $dx=5\text{mm}$, $dy=5\text{mm}$, $dz=5\text{mm}$

Reference Value = 97.065 V/m; Power Drift = 0.12 dB

Peak SAR (extrapolated) = 30.3 W/kg

SAR(1 g) = 13.8 W/kg; SAR(10 g) = 6.16 W/kg

Maximum value of SAR (measured) = 22.2 W/kg



0 dB = 22.2 W/kg = 13.46 dB W/kg



No. 25T04N001822-011-SAR

2550MHz

Date: 2023-6-26

Electronics: DAE4 Sn786

Medium: Head 2550MHz

Medium parameters used: $f = 2550$ MHz; $\sigma = 1.941$ S/m; $\epsilon_r = 38.527$; $\rho = 1000$ kg/m³

Communication System: CW Frequency: 2550 MHz Duty Cycle: 1:1

Probe: EX3DV4 - SN7683 ConvF (8.02, 8.02, 8.02)

System Validation/Area Scan (91x91x1): Interpolated grid: $dx=1.000$ mm, $dy=1.000$ mm

Reference Value = 96.745 V/m; Power Drift = 0.03 dB

SAR(1 g) = 14.2 W/kg; SAR(10 g) = 6.33 W/kg

Maximum value of SAR (interpolated) = 22.5 W/kg

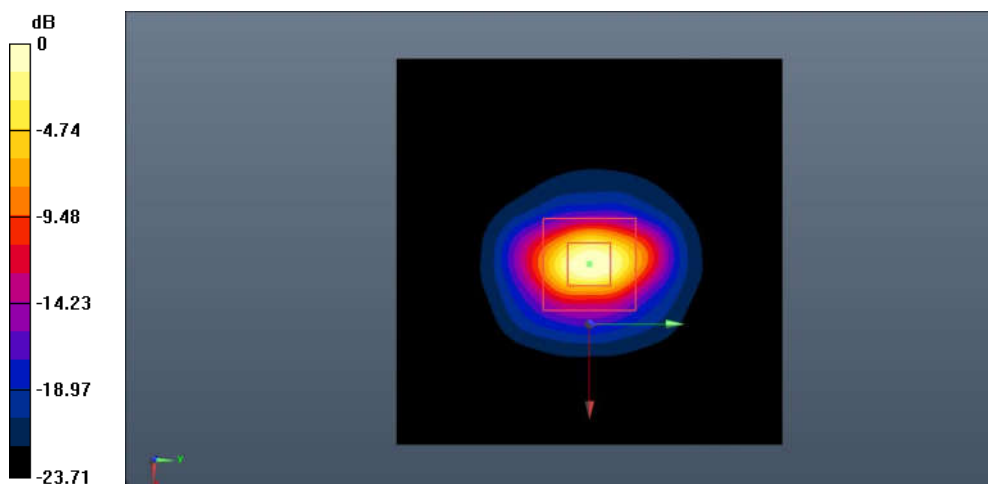
System Validation/Zoom Scan (7x7x7)/Cube0: Measurement grid: $dx=5$ mm, $dy=5$ mm, $dz=5$ mm

Reference Value = 96.745 V/m; Power Drift = 0.03 dB

Peak SAR (extrapolated) = 31.2 W/kg

SAR(1 g) = 14.4 W/kg; SAR(10 g) = 6.40 W/kg

Maximum value of SAR (measured) = 22.8 W/kg



0 dB = 22.8 W/kg = 13.58 dB W/kg



No. 25T04N001822-011-SAR

5250MHz

Date: 2023-7-10

Electronics: DAE4 Sn786

Medium: Head 5250MHz

Medium parameters used: $f = 5250 \text{ MHz}$; $\sigma = 4.796 \text{ S/m}$; $\epsilon_r = 35.174$; $\rho = 1000 \text{ kg/m}^3$

Communication System: CW Frequency: 5250 MHz Duty Cycle: 1:1

Probe: EX3DV4 - SN7683 ConvF (5.72, 5.72, 5.72)

System Validation/Area Scan (61x91x1): Interpolated grid: $dx=1.000 \text{ mm}$, $dy=1.000 \text{ mm}$

Reference Value = 68.128 V/m; Power Drift = 0.13 dB

SAR(1 g) = 8.07 W/kg; SAR(10 g) = 2.29 W/kg

Maximum value of SAR (interpolated) = 19.3 W/kg

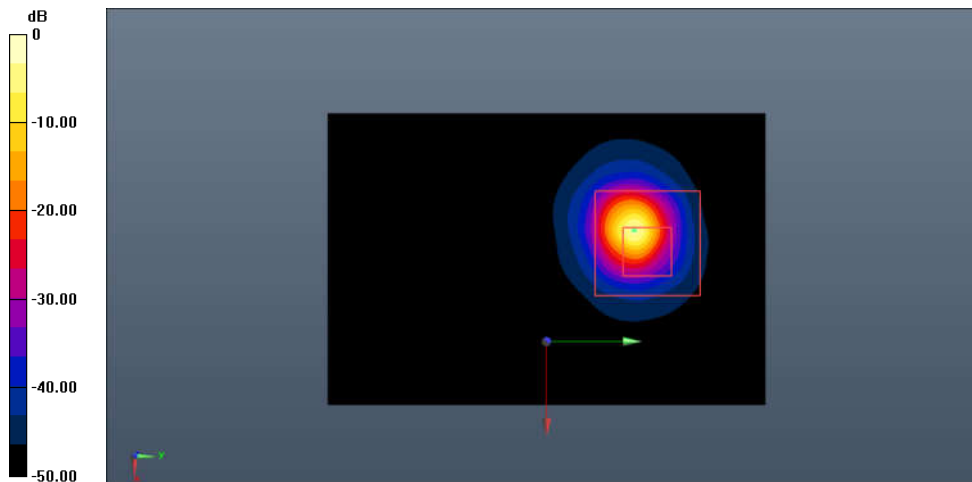
System Validation/Zoom Scan (8x8x21)/Cube0: Measurement grid: $dx=4\text{mm}$, $dy=4\text{mm}$, $dz=1.4\text{mm}$

Reference Value = 68.128 V/m; Power Drift = 0.13 dB

Peak SAR (extrapolated) = 35.5 W/kg

SAR(1 g) = 8.25 W/kg; SAR(10 g) = 2.33 W/kg

Maximum value of SAR (measured) = 19.5 W/kg



0 dB = 19.5 W/kg = 12.90 dB W/kg



No. 25T04N001822-011-SAR

ANNEX M: Second Spot Check Test

As the test lab for T5711 from Shanghai Sunmi Technology Co., Ltd., we, Shenzhen Academy of Information and Communications Technology, declare on our sole responsibility that, according to “Product Change Description” provided by applicant, only the Spot check test should be performed. The test results are as below.

M.1. Internal Identification of EUT used during the spot check test

EUT ID*	IMEI	HW Version	SW Version	Receipt Date
UT02aa	865506060388527	Bgf6e	SP6610A_769_CS_patchbuild_ 20250611094228658	2025-08-08
UT05aa	865506060388584	Bgf6e	SP6610A_769_CS_patchbuild_ 20250611094228658	2025-08-12

M.2. Tissue Simulating Liquids and System Check

Table M.1: Dielectric Performance of Head Tissue Simulating Liquid

Measurement Date (yyyy-mm-dd)	Type	Frequency (MHz)	Conductivity σ (S/m)	Drift (%)	Permittivity ϵ	Drift (%)
2025-09-02	Head	750	0.885	-0.56	41.16	-2.00
2025-09-05	Head	835	0.916	1.78	40.52	-2.36
2025-08-29	Head	1750	1.353	-1.24	40.61	1.27
2025-08-29	Head	1900	1.416	1.14	39.32	-1.70
2025-09-03	Head	2300	1.658	-0.72	39.94	1.11
2025-09-06	Head	2450	1.838	2.11	38.70	-1.28
2025-09-03	Head	2550	1.917	0.37	38.15	-2.43
2025-09-09	Head	5250	4.809	2.10	35.27	-1.75

Table M.2: System Check of Head

Measurement Date	Frequency (MHz)	Target value (W/kg)		Measured value (W/kg)				Deviation (%)	
				/		Normalize to 1W			
		1 g	10 g	1 g	10 g	1 g	10 g	1 g	10 g
2025-09-02	750	8.48	5.63	0.414	0.276	8.28	5.52	-2.36	-1.95
2025-09-05	835	9.59	6.40	0.497	0.325	9.94	6.50	3.65	1.56
2025-08-29	1750	36.50	19.50	1.76	0.962	35.20	19.24	-3.56	-1.33
2025-08-29	1900	39.70	20.90	2.08	1.08	41.60	21.60	4.79	3.35
2025-09-03	2300	49.10	24.00	2.40	1.18	48.00	23.60	-2.24	-1.67
2025-09-06	2450	52.70	24.80	2.75	1.28	55.00	25.60	4.36	3.23
2025-09-03	2550	55.00	25.00	2.87	1.29	57.40	25.80	4.36	3.20
2025-09-09	5250	77.90	22.10	3.99	1.12	79.80	22.40	2.44	1.36



M.3. Measurement results

Power Level	RF Exposure Conditions	Frequency Band	Channel Number	Frequency (MHz)	Mode/RB	Test Position	Distance	Note	Figure No.	EUT Measured Power (dBm)	Tune up (dBm)	Measured SAR 1g (W/kg)	Calculated SAR 1g (W/kg)	Measured SAR 10g (W/kg)	Calculated SAR 10g (W/kg)	Power Drift
C1	Body	GSM850	251	848,8	GPRS(3TX)	Rear	0mm	Original Data	\	25,86	26,0	0,983	1,02	0,587	0,61	0,07
C1	Body	GSM850	251	848,8	GPRS(3TX)	Rear	0mm	Spot check Data - V1	\	25,86	26,0	0,475	0,49	0,272	0,28	-0,16
C1	Body	GSM850	251	848,8	GPRS(3TX)	Rear	0mm	Spot check Data - V2	\	25,86	26,0	0,502	0,52	0,291	0,30	-0,06
C1	Body	WCDMA Band 2	9400	1880,0	RMC	Rear	0mm	Original Data	\	17,57	18,5	0,991	1,23	0,562	0,70	0,01
C1	Body	WCDMA Band 2	9400	1880,0	RMC	Rear	0mm	Spot check Data - V1	\	17,57	18,5	0,930	1,15	0,493	0,61	0,19
C1	Body	WCDMA Band 2	9400	1880,0	RMC	Rear	0mm	Spot check Data - V2	\	17,57	18,5	0,963	1,19	0,503	0,62	0,06
C1	Body	WCDMA Band 4	1513	1752,6	RMC	Rear	0mm	Original Data	\	17,45	18,5	0,956	1,22	0,504	0,64	0,05
C1	Body	WCDMA Band 4	1513	1752,6	RMC	Rear	0mm	Spot check Data - V1	\	17,45	18,5	0,752	0,96	0,385	0,49	-0,11
C1	Body	WCDMA Band 4	1513	1752,6	RMC	Rear	0mm	Spot check Data - V2	\	17,45	18,5	0,763	0,97	0,397	0,51	0,06
C1	Body	WCDMA Band 5	4233	846,6	RMC	Rear	0mm	Original Data	\	21,73	22,5	0,916	1,09	0,546	0,65	0,09
C1	Body	WCDMA Band 5	4233	846,6	RMC	Rear	0mm	Spot check Data - V1	\	21,73	22,5	0,720	0,86	0,408	0,49	0,18
C1	Body	WCDMA Band 5	4233	846,6	RMC	Rear	0mm	Spot check Data - V2	\	21,73	22,5	0,773	0,92	0,446	0,53	-0,15
C1	Body	LTE Band 7	20850	2510,0	1RB99	Rear	0mm	Original Data	\	15,49	16,5	1,090	1,38	0,516	0,65	-0,06
C1	Body	LTE Band 7	20850	2510,0	1RB99	Rear	0mm	Spot check Data - V1	\	15,49	16,5	0,375	0,47	0,173	0,22	0,19
C1	Body	LTE Band 7	20850	2510,0	1RB99	Rear	0mm	Spot check Data - V2	\	15,49	16,5	0,437	0,55	0,210	0,26	0,06
C1	Body	LTE Band 12	23095	707,5	1RB24	Rear	0mm	Original Data	\	22,79	23,5	0,983	1,16	0,615	0,72	0,02
C1	Body	LTE Band 12	23095	707,5	1RB24	Rear	0mm	Spot check Data - V1	\	22,79	23,5	0,894	1,05	0,509	0,60	0,17
C1	Body	LTE Band 12	23095	707,5	1RB24	Rear	0mm	Spot check Data - V2	\	22,79	23,5	0,892	1,05	0,502	0,59	0,02
B1	Body	LTE Band 13	23230	782,0	1RB24	Rear	0mm	Original Data	\	23,98	24,5	0,739	0,83	0,455	0,51	0,19
B1	Body	LTE Band 13	23230	782,0	1RB24	Rear	0mm	Spot check Data - V1	\	23,98	24,5	0,697	0,79	0,408	0,46	0,02
B1	Body	LTE Band 13	23230	782,0	1RB24	Rear	0mm	Spot check Data - V2	\	23,98	24,5	0,653	0,74	0,340	0,38	0,05
B1	Body	LTE Band 14	23330	793,0	1RB24	Rear	0mm	Original Data	\	23,84	24,5	0,919	1,07	0,529	0,62	0,19
B1	Body	LTE Band 14	23330	793,0	1RB24	Rear	0mm	Spot check Data - V1	\	23,84	24,5	0,589	0,69	0,341	0,40	0,03
B1	Body	LTE Band 14	23330	793,0	1RB24	Rear	0mm	Spot check Data - V2	\	23,84	24,5	0,526	0,61	0,292	0,34	0,12
C1	Body	LTE Band 25	26140	1860,0	1RB0	Rear	0mm	Original Data	\	17,02	18,0	0,937	1,17	0,539	0,68	0,01
C1	Body	LTE Band 25	26140	1860,0	1RB0	Rear	0mm	Spot check Data - V1	\	17,02	18,0	0,680	0,83	0,361	0,45	0,01
C1	Body	LTE Band 25	26140	1860,0	1RB0	Rear	0mm	Spot check Data - V2	\	17,02	18,0	0,712	0,89	0,390	0,49	0,12
C1	Body	LTE Band 26	26965	841,5	1RB0	Rear	0mm	Original Data	\	22,32	23,0	1,080	1,26	0,652	0,76	0,04
C1	Body	LTE Band 26	26965	841,5	1RB0	Rear	0mm	Spot check Data - V1	\	22,32	23,0	0,719	0,84	0,397	0,46	0,12
C1	Body	LTE Band 26	26965	841,5	1RB0	Rear	0mm	Spot check Data - V2	\	22,32	23,0	0,763	0,89	0,441	0,52	0,09
C1	Body	LTE Band 30	27710	2310,0	1RB24	Rear	0mm	Original Data	\	15,78	16,5	0,938	1,11	0,510	0,60	0,07
C1	Body	LTE Band 30	27710	2310,0	1RB24	Rear	0mm	Spot check Data - V1	\	15,78	16,5	0,633	0,75	0,305	0,36	0,11
C1	Body	LTE Band 30	27710	2310,0	1RB24	Rear	0mm	Spot check Data - V2	\	15,78	16,5	0,751	0,89	0,369	0,44	0,09
C1	Body	LTE Band 66	132322	1745,0	1RB0	Rear	0mm	Original Data	\	18,73	19,5	1,090	1,30	0,580	0,69	0,01
C1	Body	LTE Band 66	132322	1745,0	1RB0	Rear	0mm	Spot check Data - V1	\	18,73	19,5	0,644	0,77	0,335	0,40	0,12
C1	Body	LTE Band 66	132322	1745,0	1RB0	Rear	0mm	Spot check Data - V2	\	18,73	19,5	0,761	0,91	0,401	0,48	0,08
C1	Body	LTE Band 71	133372	688,0	1RB50	Rear	0mm	Original Data	\	22,98	24,0	1,020	1,29	0,623	0,79	0,08
C1	Body	LTE Band 71	133372	688,0	1RB50	Rear	0mm	Spot check Data - V1	\	22,98	24,0	0,490	0,62	0,292	0,37	-0,16
C1	Body	LTE Band 71	133372	688,0	1RB50	Rear	0mm	Spot check Data - V2	\	22,98	24,0	0,472	0,60	0,261	0,36	0,05
C1	Body	LTE Band 41	40620	2593,0	1RB50	Rear	0mm	Original Data	\	17,21	18,0	0,986	1,16	0,462	0,55	-0,07
C1	Body	LTE Band 41	40620	2593,0	1RB50	Rear	0mm	Spot check Data - V1	\	17,21	18,0	0,511	0,61	0,242	0,29	-0,09
C1	Body	LTE Band 41	40620	2593,0	1RB50	Rear	0mm	Spot check Data - V2	\	17,21	18,0	0,508	0,61	0,241	0,29	-0,19
/	Body	Bluetooth	78	2480,0	GFSK	Rear	0mm	Original Data	\	10,52	11,5	<0,01	<0,01	<0,01	<0,01	/
/	Body	Bluetooth	78	2480,0	GFSK	Rear	0mm	Spot check Data - V1	\	10,52	11,5	<0,01	<0,01	<0,01	<0,01	/
/	Body	Bluetooth	78	2480,0	GFSK	Rear	0mm	Spot check Data - V2	\	10,52	11,5	<0,01	<0,01	<0,01	<0,01	/
/	Body	WLAN 2,4GHz	11	2462,0	802,11b	Rear	0mm	Original Data	\	15,76	16,5	0,113	0,13	0,056	0,07	0,04
/	Body	WLAN 2,4GHz	11	2462,0	802,11b	Rear	0mm	Spot check Data - V1	\	15,76	16,5	0,099	0,12	0,047	0,06	0,06
/	Body	WLAN 2,4GHz	11	2462,0	802,11b	Rear	0mm	Spot check Data - V2	\	15,76	16,5	0,075	0,09	0,035	0,04	-0,12
/	Body	U-NII-2A	64	5320,0	802,11a	Rear	0mm	Original Data	\	14,01	15,0	0,155	0,19	0,038	0,05	-0,07
/	Body	U-NII-2A	64	5320,0	802,11a	Rear	0mm	Spot check Data - V1	\	14,01	15,0	0,117	0,15	0,034	0,04	-0,01
/	Body	U-NII-2A	64	5320,0	802,11a	Rear	0mm	Spot check Data - V2	\	14,01	15,0	0,186	0,23	0,054	0,07	-0,04

Note:Variant product 1 (1nd LCD supplier): V1Variant product 2 (2nd LCD supplier): V2

M.4. Measurement Uncertainty

Table M.3: Measurement Uncertainty for Normal SAR Tests (300MHz~3GHz)

No.	Error Description	Type	Uncertainty value	Probably Distribution	Div.	(Ci) 1g	(Ci) 10g	Std. Unc. (1g)	Std. Unc. (10g)	Degree of freedom
Measurement system										
1	Probe calibration	B	13.0	N	2	1	1	6.5	6.5	∞
2	Axial isotropy	B	4.7	R	$\sqrt{3}$	$\sqrt{0.5}$	$\sqrt{0.5}$	4.3	4.3	∞
3	Hemispherical isotropy	B	9.6	R	$\sqrt{3}$	1	1	4.8	4.8	∞
4	Boundary effect	B	1.1	R	$\sqrt{3}$	1	1	0.6	0.6	∞
5	Linearity	B	4.7	R	$\sqrt{3}$	1	1	2.7	2.7	∞
6	Detection limit	B	1.0	R	$\sqrt{3}$	1	1	0.6	0.6	∞
7	Modulation response	B	4.0	R	$\sqrt{3}$	1	1	2.3	2.3	∞
8	Readout electronics	B	1.0	N	1	1	1	1.0	1.0	∞
9	Response time	B	0.8	R	$\sqrt{3}$	1	1	0.5	0.5	∞
10	Integration time	B	1.7	R	$\sqrt{3}$	1	1	1.0	1.0	∞
11	RF ambient conditions-noise	B	3.0	R	$\sqrt{3}$	1	1	1.7	1.7	∞
12	RF ambient conditions-reflection	B	3.0	R	$\sqrt{3}$	1	1	1.7	1.7	∞
13	Probe positioned mech. restrictions	B	0.35	R	$\sqrt{3}$	1	1	0.2	0.2	∞
14	Probe positioning with respect to phantom shell	B	2.9	R	$\sqrt{3}$	1	1	1.7	1.7	∞
15	Post-processing	B	1.0	R	$\sqrt{3}$	1	1	0.6	0.6	∞
Test sample related										
16	Test sample positioning	A	3.3	N	1	1	1	3.3	3.3	5
17	Device holder uncertainty	A	3.4	N	1	1	1	3.4	3.4	5
18	Power scaling	B	0	R	$\sqrt{3}$	1	1	0	0	∞
19	Drift of output power	B	5.0	R	$\sqrt{3}$	1	1	2.9	2.9	∞
Phantom and set-up										
20	Phantom uncertainty	B	1.0	R	$\sqrt{3}$	1	1	0.6	0.6	∞
21	Algorithm for correcting SAR for deviations in permittivity and conductivity	B	1.9	N	1	1	0.84	1.9	1.6	∞
22	Liquid conductivity (target)	B	5.0	R	$\sqrt{3}$	0.64	0.43	1.8	1.2	∞
23	Liquid conductivity (meas.)	A	1.3	N	1	0.64	0.43	0.83	0.56	9
24	Liquid permittivity (target)	B	5.0	R	$\sqrt{3}$	0.6	0.49	1.7	1.4	∞
25	Liquid permittivity (meas.)	A	1.6	N	1	0.6	0.49	0.96	0.78	9
Combined standard uncertainty, $u'_c = \sqrt{\sum_{i=1}^{25} c_i^2 u_i^2}$								11.7	11.5	95.5
Expanded uncertainty (Confidence interval of 95 %), $u_e = 2u'_c$								23.4	23.0	


Table L.4: Measurement Uncertainty for Normal SAR Tests (3GHz~6GHz)

No.	Error Description	Type	Uncertainty value	Probably Distribution	Div.	(Ci) 1g	(Ci) 10g	Std. Unc. (1g)	Std. Unc. (10g)	Degree of freedom
Measurement system										
1	Probe calibration	B	14.0	N	2	1	1	7.0	7.0	∞
2	Axial isotropy	B	4.7	R	√3	√0.5	√0.5	4.3	4.3	∞
3	Hemispherical isotropy	B	9.6	R	√3	1	1	4.8	4.8	∞
4	Boundary effect	B	1.1	R	√3	1	1	0.6	0.6	∞
5	Linearity	B	4.7	R	√3	1	1	2.7	2.7	∞
6	Detection limit	B	1.0	R	√3	1	1	0.6	0.6	∞
7	modulation response	B	4.0	R	√3	1	1	2.3	2.3	∞
8	Readout electronics	B	1.0	N	1	1	1	1.0	1.0	∞
9	Response time	B	0.0	R	√3	1	1	0.0	0.0	∞
10	Integration time	B	1.7	R	√3	1	1	1.0	1.0	∞
11	RF ambient conditions-noise	B	3.0	R	√3	1	1	1.7	1.7	∞
12	RF ambient conditions-reflection	B	3.0	R	√3	1	1	1.7	1.7	∞
13	Probe positioned mech. Restrictions	B	0.35	R	√3	1	1	0.2	0.2	∞
14	Probe positioning with respect to phantom shell	B	2.9	R	√3	1	1	1.7	1.7	∞
15	Post-processing	B	1.0	R	√3	1	1	0.6	0.6	∞
Test sample related										
16	Test sample positioning	A	3.3	N	1	1	1	3.3	3.3	5
17	Device holder uncertainty	A	3.4	N	1	1	1	3.4	3.4	5
18	Power scaling	B	0	R	√3	1	1	0	0	∞
19	Drift of output power	B	5.0	R	√3	1	1	2.9	2.9	∞
Phantom and set-up										
20	Phantom uncertainty	B	1.0	R	√3	1	1	0.6	0.6	∞
21	Algorithm for correcting SAR for deviations in permittivity and conductivity	B	1.9	N	1	1	0.84	1.9	1.6	∞
22	Liquid conductivity (target)	B	5.0	R	√3	0.64	0.43	1.8	1.2	∞
23	Liquid conductivity (meas.)	A	1.3	N	1	0.64	0.43	0.83	0.56	9
24	Liquid permittivity (target)	B	5.0	R	√3	0.6	0.49	1.7	1.4	∞
25	Liquid permittivity (meas.)	A	1.6	N	1	0.6	0.49	0.96	0.78	9
Combined standard uncertainty, $u_c' = \sqrt{\sum_{i=1}^{25} c_i^2 u_i^2}$								12.0	11.8	95.5
Expanded uncertainty (Confidence interval of 95 %), $u_e = 2u_c$								24.0	23.6	



No. 25T04N001822-011-SAR

M.5. List of Main instruments

No.	Name	Type	Serial Number	Calibration Date	Valid Period
01	Network analyzer	E5071C	MY46103759	2024-11-12	One year
02	Dielectric probe	85070E	MY44300317	/	/
03	Power meter	E4418B	MY50000366	2024-12-09	One year
04	Power sensor	E9304A	MY50000188	2024-12-09	One year
05	Power meter	NRP	102603	2024-12-17	One year
06	Power sensor	NRP-Z51	102211	2024-12-17	One year
07	Signal Generator	E8257D	MY47461211	2025-01-10	One year
08	Amplifier	VTL5400	0404	/	/
09	E-field Probe	EX3DV4	7621	2025-07-25	One year
10	DAE	DAE4	786	2024-12-12	One year
11	Dipole Validation Kit	D750V3	1163	2025-07-28	Three years
12	Dipole Validation Kit	D835V2	4d057	2024-09-26	Three years
13	Dipole Validation Kit	D1750V2	1152	2025-08-01	Three years
14	Dipole Validation Kit	D1900V2	5d088	2024-09-26	Three years
15	Dipole Validation Kit	D2300V2	1059	2024-09-03	Three years
16	Dipole Validation Kit	D2450V2	873	2024-09-26	Three years
17	Dipole Validation Kit	D2550V2	1010	2024-04-23	Three years
18	Dipole Validation Kit	D5GHzV2	1238	2025-07-30	Three years
19	BTS	CMW500	152499	2025-07-11	One year
20	Thermometer	51II	99250045	2024-11-21	One year

**M.6. Graph Results for Spot Check****GSM 850 Body****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	GSM 850	GSM, 10027-DAC	848.800, 251	9.21	0.929	40.4

Hardware Setup

Phantom	TSL, Measured Date	Probe, Calibration Date	DAE, Calibration Date
Twin-SAM V8.0 (30deg probe tilt) - 2130	835MHz-Head Charge:2025-09-05	EX3DV4 - SN7621, 2025-07-25	DAE4 Sn786, 2024-12-12

Scans Setup

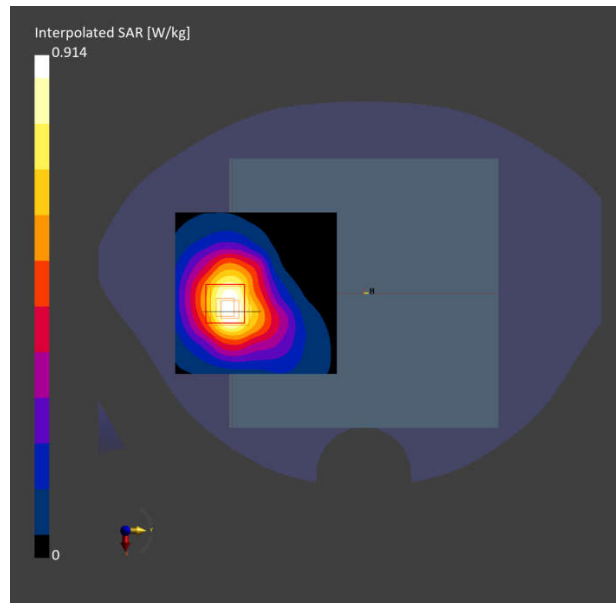
	Area Scan	Zoom Scan
Grid Extents [mm]	90.0 x 90.0	32.0 x 32.0 x 30.0
Grid Steps [mm]	15.0 x 15.0	8.0 x 8.0 x 5.0
Sensor Surface [mm]	3.0	1.4
Graded Grid	N/A	Yes
Grading Ratio	N/A	1.5
MAIA	N/A	N/A
Surface Detection	VMS + 6p	VMS + 6p
Scan Method	Measured	Measured

Measurement Results

	Area Scan	Zoom Scan
Date	2025-09-05	2025-09-05
psSAR1g [W/Kg]	0.522	0.502
psSAR10g [W/Kg]	0.338	0.291
Power Drift [dB]	0.10	-0.06
Power Scaling	Disabled	Disabled
Scaling Factor [dB]		
TSL Correction	No correction	No correction
M2/M1 [%]		50.0
Dist 3dB Peak [mm]		14.8



No. 25T04N001822-011-SAR





No. 25T04N001822-011-SAR

WCDMA Band 2 Body

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	Band 2	WCDMA, 10011-CAC	1880.000, 9400	7.75	1.40	39.4

Hardware Setup

Phantom	TSL, Measured Date	Probe, Calibration Date	DAE, Calibration Date
Twin-SAM V8.0 (30deg probe tilt) - 2130	1900MHz-Head Charge:2025-08-29	EX3DV4 - SN7621, 2025-07-25	DAE4 Sn786, 2024-12-12

Scans Setup

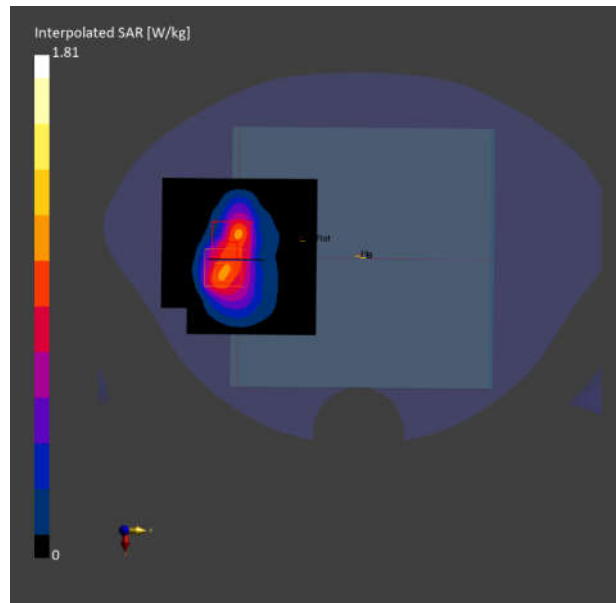
	Area Scan	Zoom Scan
Grid Extents [mm]	90.0 x 90.0	32.0 x 32.0 x 30.0
Grid Steps [mm]	15.0 x 15.0	8.0 x 8.0 x 5.0
Sensor Surface [mm]	3.0	1.4
Graded Grid	N/A	Yes
Grading Ratio	N/A	1.5
MAIA	N/A	N/A
Surface Detection	VMS + 6p	VMS + 6p
Scan Method	Measured	Measured

Measurement Results

	Area Scan	Zoom Scan
Date	2025-08-29	2025-08-29
psSAR1g [W/Kg]	0.911	0.963
psSAR10g [W/Kg]	0.519	0.503
Power Drift [dB]	-0.05	0.06
Power Scaling	Disabled	Disabled
Scaling Factor [dB]		
TSL Correction	No correction	No correction
M2/M1 [%]		53.3
Dist 3dB Peak [mm]		10.3



No. 25T04N001822-011-SAR





No. 25T04N001822-011-SAR

WCDMA Band 4 Body

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	Band 4	WCDMA, 10011-CAC	1752.600, 1513	8.05	1.36	40.6

Hardware Setup

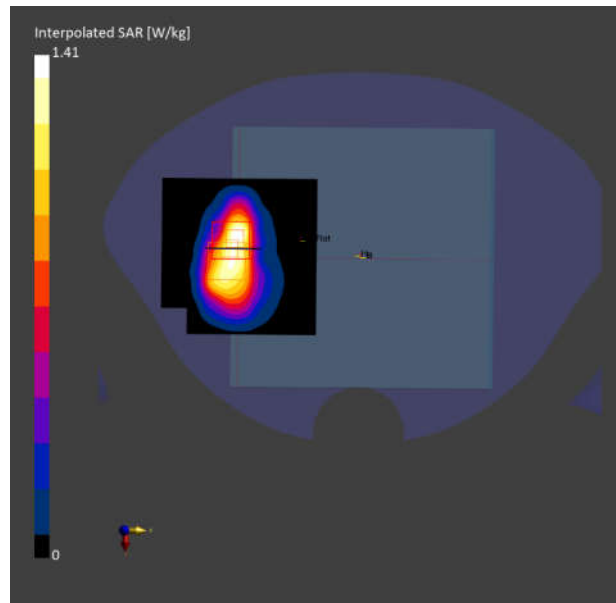
Phantom	TSL, Measured Date	Probe, Calibration Date	DAE, Calibration Date
Twin-SAM V8.0 (30deg probe tilt) - 2130	1750MHz-Head Charge:2025-08-29	EX3DV4 - SN7621, 2025-07-25	DAE4 Sn786, 2024-12-12

Scans Setup

	Area Scan	Zoom Scan
Grid Extents [mm]	90.0 x 90.0	32.0 x 32.0 x 30.0
Grid Steps [mm]	15.0 x 15.0	8.0 x 8.0 x 5.0
Sensor Surface [mm]	3.0	1.4
Graded Grid	N/A	Yes
Grading Ratio	N/A	1.5
MAIA	N/A	N/A
Surface Detection	VMS + 6p	VMS + 6p
Scan Method	Measured	Measured

Measurement Results

	Area Scan	Zoom Scan
Date	2025-08-29	2025-08-29
psSAR1g [W/Kg]	0.677	0.763
psSAR10g [W/Kg]	0.389	0.397
Power Drift [dB]	0.02	0.06
Power Scaling	Disabled	Disabled
Scaling Factor [dB]		
TSL Correction	No correction	No correction
M2/M1 [%]		51.9
Dist 3dB Peak [mm]		9.6





No. 25T04N001822-011-SAR

WCDMA Band 5 Body

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	Band 5	WCDMA, 10011-CAC	846.600, 4233	9.21	0.927	40.4

Hardware Setup

Phantom	TSL, Measured Date	Probe, Calibration Date	DAE, Calibration Date
Twin-SAM V8.0 (30deg probe tilt) - 2130	835MHz-Head Charge:2025-09-05	EX3DV4 - SN7621, 2025-07-25	DAE4 Sn786, 2024-12-12

Scans Setup

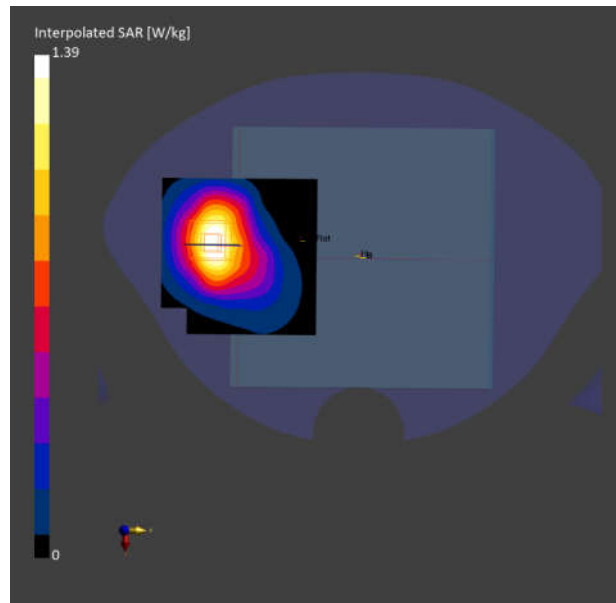
	Area Scan	Zoom Scan
Grid Extents [mm]	90.0 x 90.0	32.0 x 32.0 x 30.0
Grid Steps [mm]	15.0 x 15.0	8.0 x 8.0 x 5.0
Sensor Surface [mm]	3.0	1.4
Graded Grid	N/A	Yes
Grading Ratio	N/A	1.5
MAIA	N/A	N/A
Surface Detection	VMS + 6p	VMS + 6p
Scan Method	Measured	Measured

Measurement Results

	Area Scan	Zoom Scan
Date	2025-09-05	2025-09-05
psSAR1g [W/Kg]	0.801	0.773
psSAR10g [W/Kg]	0.513	0.446
Power Drift [dB]	-0.07	-0.15
Power Scaling	Disabled	Disabled
Scaling Factor [dB]		
TSL Correction	No correction	No correction
M2/M1 [%]		51.3
Dist 3dB Peak [mm]		14.5



No. 25T04N001822-011-SAR





No. 25T04N001822-011-SAR

LTE Band 7 Body

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	Band 7	LTE-FDD, 10169-CAF	2510.000, 20850	7.16	1.87	38.3

Hardware Setup

Phantom	TSL, Measured Date	Probe, Calibration Date	DAE, Calibration Date
Twin-SAM V8.0 (30deg probe tilt) - 2130	2550MHz-Head Charge:2025-09-03	EX3DV4 - SN7621, 2025-07-25	DAE4 Sn786, 2024-12-12

Scans Setup

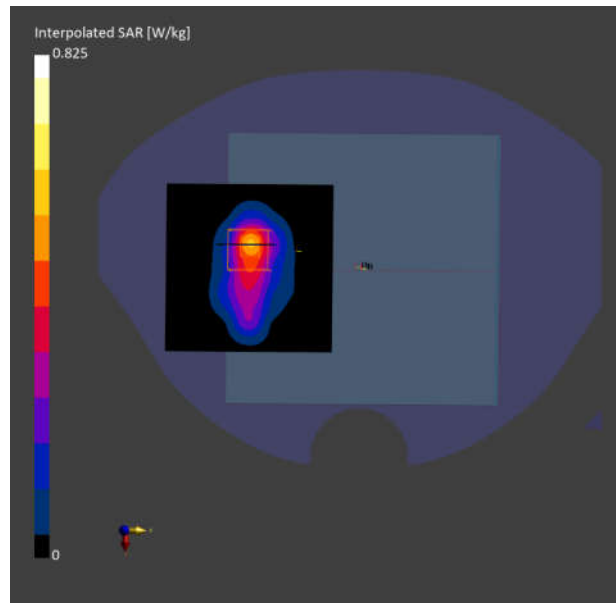
	Area Scan	Zoom Scan
Grid Extents [mm]	90.0 x 90.0	30.0 x 30.0 x 30.0
Grid Steps [mm]	10.0 x 10.0	5.0 x 5.0 x 5.0
Sensor Surface [mm]	3.0	1.4
Graded Grid	N/A	Yes
Grading Ratio	N/A	1.5
MAIA	N/A	N/A
Surface Detection	VMS + 6p	VMS + 6p
Scan Method	Measured	Measured

Measurement Results

	Area Scan	Zoom Scan
Date	2025-09-03	2025-09-03
psSAR1g [W/Kg]	0.383	0.437
psSAR10g [W/Kg]	0.200	0.210
Power Drift [dB]	0.07	0.06
Power Scaling	Disabled	Disabled
Scaling Factor [dB]		
TSL Correction	No correction	No correction
M2/M1 [%]		53.4
Dist 3dB Peak [mm]		9.8



No. 25T04N001822-011-SAR





No. 25T04N001822-011-SAR

LTE Band 12 Body

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	Band 12	LTE-FDD, 10175-CAH	707.500, 23095	9.65	0.861	41.7

Hardware Setup

Phantom	TSL, Measured Date	Probe, Calibration Date	DAE, Calibration Date
Twin-SAM V8.0 (30deg probe tilt) - 2130	750MHz-Head Charge:2025-09-02	EX3DV4 - SN7621, 2025-07-25	DAE4 Sn786, 2024-12-12

Scans Setup

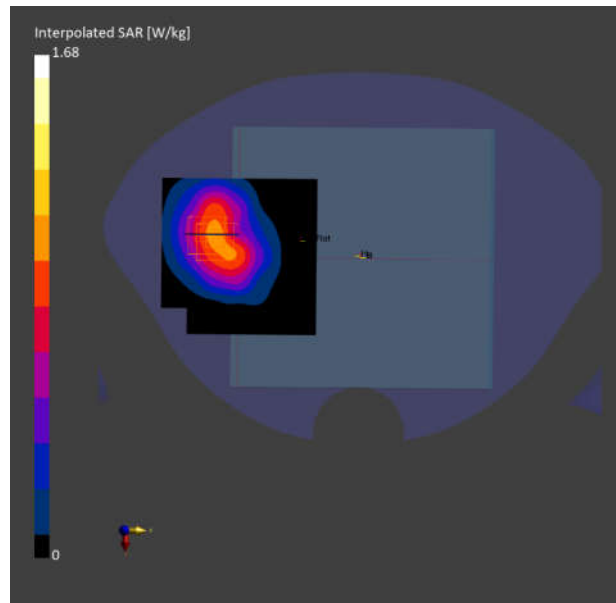
	Area Scan	Zoom Scan
Grid Extents [mm]	90.0 x 90.0	32.0 x 32.0 x 30.0
Grid Steps [mm]	15.0 x 15.0	8.0 x 8.0 x 5.0
Sensor Surface [mm]	3.0	1.4
Graded Grid	N/A	Yes
Grading Ratio	N/A	1.5
MAIA	N/A	N/A
Surface Detection	VMS + 6p	VMS + 6p
Scan Method	Measured	Measured

Measurement Results

	Area Scan	Zoom Scan
Date	2025-09-02	2025-09-02
psSAR1g [W/Kg]	0.901	0.894
psSAR10g [W/Kg]	0.607	0.509
Power Drift [dB]	0.08	0.17
Power Scaling	Disabled	Disabled
Scaling Factor [dB]		
TSL Correction	No correction	No correction
M2/M1 [%]		50.5
Dist 3dB Peak [mm]		12.5



No. 25T04N001822-011-SAR





No. 25T04N001822-011-SAR

LTE Band 13 Body

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	Band 13	LTE-FDD, 10175-CAH	782.000, 23230	9.65	0.905	40.8

Hardware Setup

Phantom	TSL, Measured Date	Probe, Calibration Date	DAE, Calibration Date
Twin-SAM V8.0 (30deg probe tilt) - 2130	750MHz-Head Charge:2025-09-02	EX3DV4 - SN7621, 2025-07-25	DAE4 Sn786, 2024-12-12

Scans Setup

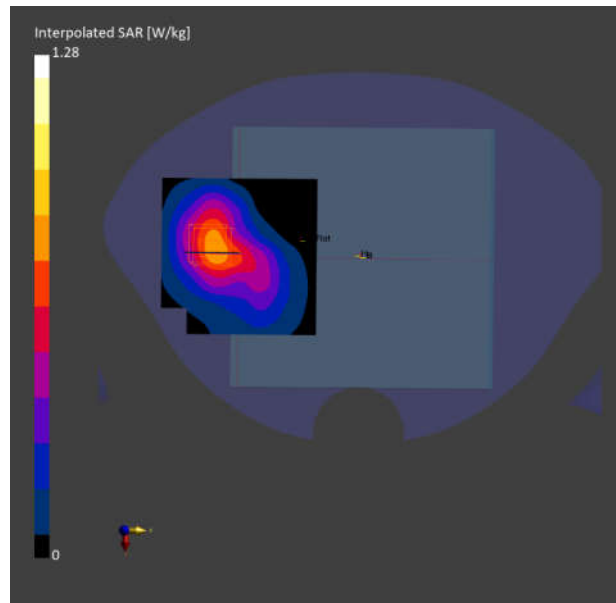
	Area Scan	Zoom Scan
Grid Extents [mm]	90.0 x 90.0	32.0 x 32.0 x 30.0
Grid Steps [mm]	15.0 x 15.0	8.0 x 8.0 x 5.0
Sensor Surface [mm]	3.0	1.4
Graded Grid	N/A	Yes
Grading Ratio	N/A	1.5
MAIA	N/A	N/A
Surface Detection	VMS + 6p	VMS + 6p
Scan Method	Measured	Measured

Measurement Results

	Area Scan	Zoom Scan
Date	2025-09-02	2025-09-02
psSAR1g [W/Kg]	0.721	0.697
psSAR10g [W/Kg]	0.470	0.408
Power Drift [dB]	-0.03	0.02
Power Scaling	Disabled	Disabled
Scaling Factor [dB]		
TSL Correction	No correction	No correction
M2/M1 [%]		49.6
Dist 3dB Peak [mm]		14.8



No. 25T04N001822-011-SAR





No. 25T04N001822-011-SAR

LTE Band 14 Body

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	Band 14	LTE-FDD, 10175-CAH	793.000, 23330	9.65	0.912	40.8

Hardware Setup

Phantom	TSL, Measured Date	Probe, Calibration Date	DAE, Calibration Date
Twin-SAM V8.0 (30deg probe tilt) - 2130	750MHz-Head Charge:2025-09-02	EX3DV4 - SN7621, 2025-07-25	DAE4 Sn786, 2024-12-12

Scans Setup

	Area Scan	Zoom Scan
Grid Extents [mm]	90.0 x 90.0	32.0 x 32.0 x 30.0
Grid Steps [mm]	15.0 x 15.0	8.0 x 8.0 x 5.0
Sensor Surface [mm]	3.0	1.4
Graded Grid	N/A	Yes
Grading Ratio	N/A	1.5
MAIA	N/A	N/A
Surface Detection	VMS + 6p	VMS + 6p
Scan Method	Measured	Measured

Measurement Results

	Area Scan	Zoom Scan
Date	2025-09-02	2025-09-02
psSAR1g [W/Kg]	0.608	0.589
psSAR10g [W/Kg]	0.395	0.341
Power Drift [dB]	0.05	0.03
Power Scaling	Disabled	Disabled
Scaling Factor [dB]		
TSL Correction	No correction	No correction
M2/M1 [%]		53.3
Dist 3dB Peak [mm]		13.7