

E-UTRA Band 19:**Test Laboratory:** Audix SAR Lab

Date: 07/03/2026

CH24125(842.5MHz Back)**DUT:** Starway Global USB WiFi Stick MN:ST2

Communication System: UID 0, Generic LTE (0); Communication System Band: Band 19,
E-UTRA/FDD (830.0 - 845.0 MHz); Frequency: 842.5 MHz; Communication System PAR:
0 dB

Medium parameters used (extrapolated): $f = 842.5$ MHz; $\sigma = 0.974$ S/m; $\epsilon_r = 40.565$; $\rho = 1000$ kg/m³

Phantom section: Flat Section

DASY5 Configuration:

- Probe: EX3DV4 - SN7957; ConvF(9.15, 9.35, 9.7); Calibrated: 06/10/2025;
- Modulation Compensation:
- Sensor-Surface: 4mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn899; Calibrated: 19/06/2025
- Phantom: SAM 1; Type: SAM; Serial: TP-1543
- Measurement SW: DASY52, Version 52.8 (8); SEMCAD X Version 14.6.10 (7331)

Configuration/CH24125(842.5MHz Back)/Area Scan (61x61x1): Interpolatedgrid: $dx=1.500$ mm, $dy=1.500$ mm

Maximum value of SAR (interpolated) = 0.504 W/kg

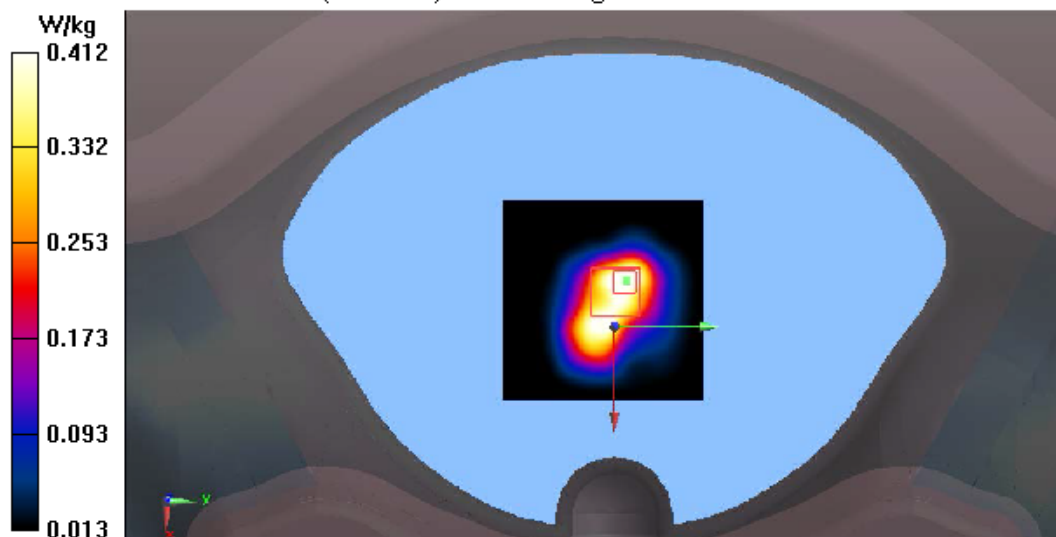
Configuration/CH24125(842.5MHz Back)/Zoom Scan (5x5x7)/Cube 0:Measurement grid: $dx=8$ mm, $dy=8$ mm, $dz=5$ mm

Reference Value = 20.65 V/m; Power Drift = 0.01 dB

Peak SAR (extrapolated) = 0.512 W/kg

SAR(1 g) = 0.389 W/kg; SAR(10 g) = 0.291 W/kg

Maximum value of SAR (measured) = 0.412 W/kg



E-UTRA Band 26:**Test Laboratory: Audix SAR Lab**

Date: 07/03/2026

CH26697(814.7MHz Back)**DUT: Starway Global USB WiFi Stick MN:ST2**

Communication System: UID 0, Generic LTE (0); Communication System Band: Band 26,
E-UTRA/FDD (817.0 - 843.0 MHz); Frequency: 814.7 MHz; Communication System PAR:
0 dB

Medium parameters used (extrapolated): $f = 814.7$ MHz; $\sigma = 0.873$ S/m; $\epsilon_r = 41.745$; $\rho = 1000$ kg/m³

Phantom section: Flat Section

DASY5 Configuration:

- Probe: EX3DV4 - SN7957; ConvF(9.15, 9.35, 9.7); Calibrated: 06/10/2025;
- Modulation Compensation:
- Sensor-Surface: 4mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn899; Calibrated: 19/06/2025
- Phantom: SAM 1; Type: SAM; Serial: TP-1543
- Measurement SW: DASY52, Version 52.8 (8); SEMCAD X Version 14.6.10 (7331)

Configuration/CH26697(814.7MHz Back)/Area Scan (61x61x1): Interpolatedgrid: $dx=1.500$ mm, $dy=1.500$ mm

Maximum value of SAR (interpolated) = 0.448 W/kg

Configuration/CH26697(814.7MHz Back)/Zoom Scan (5x5x7)/Cube 0:Measurement grid: $dx=8$ mm, $dy=8$ mm, $dz=5$ mm

Reference Value = 20.57 V/m; Power Drift = -0.16 dB

Peak SAR (extrapolated) = 0.456 W/kg

SAR(1 g) = 0.346 W/kg; SAR(10 g) = 0.186 W/kg

Maximum value of SAR (measured) = 0.366 W/kg



E-UTRA Band 38:**Test Laboratory:** Audix SAR Lab

Date: 25/02/2026

CH38000(2595MHz Back)**DUT:** Starway Global USB WiFi Stick MN:ST2

Communication System: UID 0, Generic LTE (0); Communication System Band: Band 38, E-UTRA/TDD (2570.0 - 2620.0 MHz); Frequency: 2595 MHz; Communication System

PAR: 0 dB

Medium parameters used (interpolated): $f = 2595$ MHz; $\sigma = 2.044$ S/m; $\epsilon_r = 38.186$; $\rho = 1000$ kg/m³

Phantom section: Flat Section

DASY5 Configuration:

- Probe: EX3DV4 - SN7957; ConvF(7.17, 7.33, 7.6); Calibrated: 06/10/2025;
- Modulation Compensation:
- Sensor-Surface: 4mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn899; Calibrated: 19/06/2025
- Phantom: SAM 1; Type: SAM; Serial: TP-1543
- Measurement SW: DASY52, Version 52.8 (8); SEMCAD X Version 14.6.10 (7331)

Configuration/CH38000(2595MHz Back)/Area Scan (61x61x1): Interpolatedgrid: $dx=1.500$ mm, $dy=1.500$ mm

Maximum value of SAR (interpolated) = 1.35 W/kg

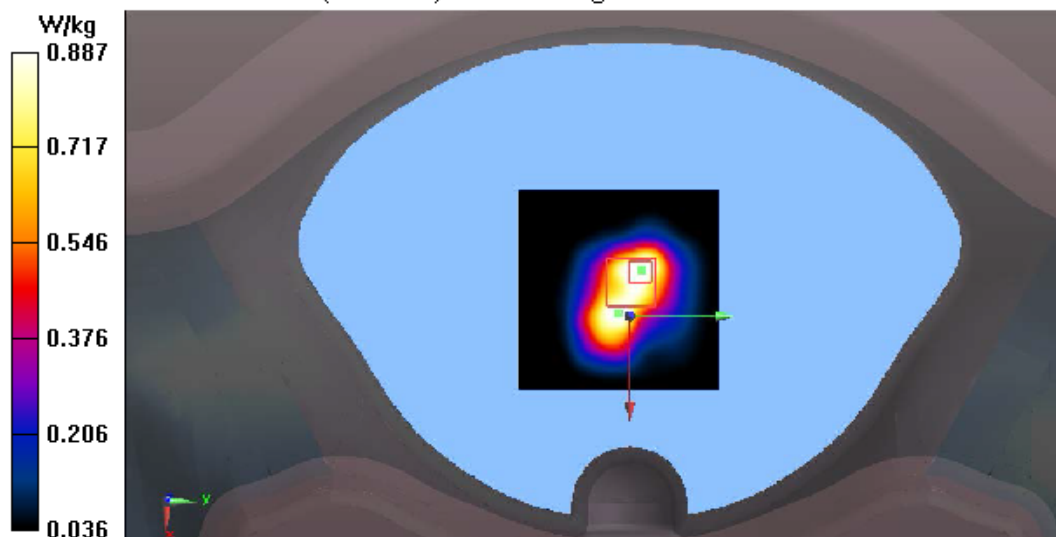
Configuration/CH38000(2595MHz Back)/Zoom Scan (5x5x7)/Cube 0:Measurement grid: $dx=8$ mm, $dy=8$ mm, $dz=5$ mm

Reference Value = 23.29 V/m; Power Drift = 0.03 dB

Peak SAR (extrapolated) = 1.37 W/kg

SAR(1 g) = 0.621 W/kg; SAR(10 g) = 0.477 W/kg

Maximum value of SAR (measured) = 0.887 W/kg



E-UTRA Band 40:**Test Laboratory:** Audix SAR Lab

Date: 28/1/2026

CH38750(2310MHz Back)**DUT:** Dipole 2450 MHz D2450V2; **Type:** D2450V2; **Serial:** D2450V2 - SN:xxx

Communication System: UID 0, Generic LTE (0); Communication System Band: Band 40,

E-UTRA/TDD (2300.0 - 2400.0 MHz); Frequency: 2310 MHz; Communication System

PAR: 0 dB

Medium parameters used: $f = 2400$ MHz; $\sigma = 1.826$ S/m; $\epsilon_r = 38.909$; $\rho = 1000$ kg/m³

Phantom section: Flat Section

DASY5 Configuration:

- Probe: EX3DV4 - SN7957; ConvF(7.23, 7.4, 7.67); Calibrated: 06/10/2025;
- Modulation Compensation:
- Sensor-Surface: 4mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn899; Calibrated: 19/06/2025
- Phantom: SAM 1; Type: SAM; Serial: TP-1543
- Measurement SW: DASY52, Version 52.8 (8); SEMCAD X Version 14.6.10 (7331)

Configuration/CH38750(2310MHz Back)/Area Scan (61x61x1): Interpolatedgrid: $dx=1.500$ mm, $dy=1.500$ mm

Maximum value of SAR (interpolated) = 1.19 W/kg

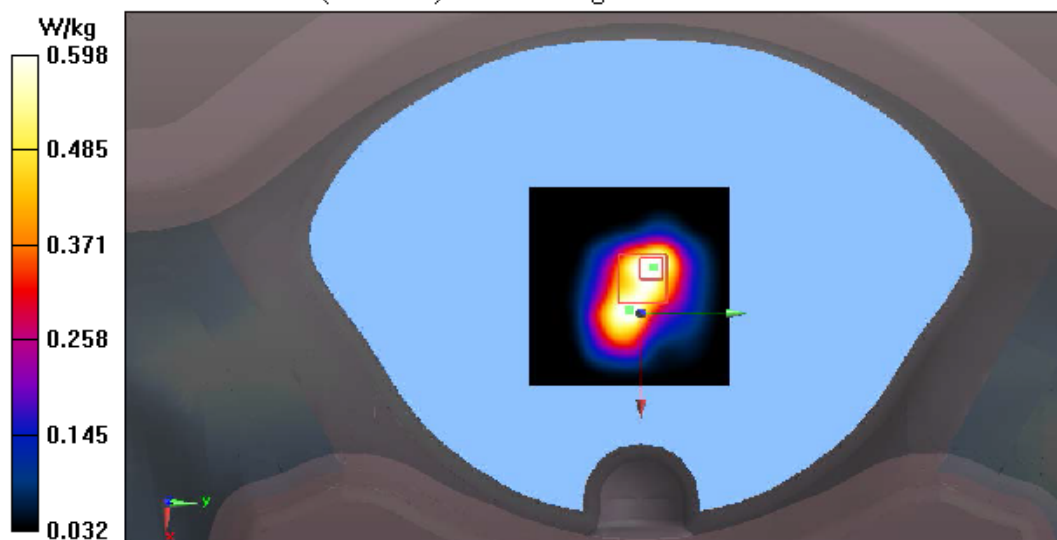
Configuration/CH38750(2310MHz Back)/Zoom Scan (5x5x7)/Cube 0:Measurement grid: $dx=8$ mm, $dy=8$ mm, $dz=5$ mm

Reference Value = 23.21 V/m; Power Drift = 0.03 dB

Peak SAR (extrapolated) = 1.22 W/kg

SAR(1 g) = 0.368 W/kg; SAR(10 g) = 0.118 W/kg

Maximum value of SAR (measured) = 0.598 W/kg



E-UTRA Band 41:**Test Laboratory:** Audix SAR Lab

Date: 25/02/2026

CH40620(2593MHz Back)**DUT:** Dipole 2450 MHz D2450V2; **Type:** D2450V2; **Serial:** D2450V2 - SN:xxx

Communication System: UID 0, Generic LTE (0); Communication System Band: Band 41,

E-UTRA/TDD (2496.0 - 2690.0 MHz); Frequency: 2593 MHz; Communication System

PAR: 0 dB

Medium parameters used (interpolated): $f = 2593$ MHz; $\sigma = 2.038$ S/m; $\epsilon_r = 38.26$; $\rho = 1000$ kg/m³

Phantom section: Flat Section

DASY5 Configuration:

- Probe: EX3DV4 - SN7957; ConvF(7.17, 7.33, 7.6); Calibrated: 06/10/2025;
- Modulation Compensation:
- Sensor-Surface: 4mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn899; Calibrated: 19/06/2025
- Phantom: SAM 1; Type: SAM; Serial: TP-1543
- Measurement SW: DASY52, Version 52.8 (8); SEMCAD X Version 14.6.10 (7331)

Configuration/CH40620(2593MHz Back)/Area Scan (61x61x1): Interpolatedgrid: $dx=1.500$ mm, $dy=1.500$ mm

Maximum value of SAR (interpolated) = 1.34 W/kg

Configuration/CH40620(2593MHz Back)/Zoom Scan (5x5x7)/Cube 0:Measurement grid: $dx=8$ mm, $dy=8$ mm, $dz=5$ mm

Reference Value = 23.29 V/m; Power Drift = 0.09 dB

Peak SAR (extrapolated) = 1.37 W/kg

SAR(1 g) = 0.390 W/kg; SAR(10 g) = 0.283 W/kg

Maximum value of SAR (measured) = 0.461 W/kg



E-UTRA Band 66:**Test Laboratory:** Audix SAR Lab

Date: 24/02/2026

CH132072(1720MHz Back)**DUT:** Dipole 2450 MHz D2450V2; **Type:** D2450V2; **Serial:** D2450V2 - SN:xxx

Communication System: UID 0, Generic LTE (0); Communication System Band: Band 66;

Frequency: 1720 MHz; Communication System PAR: 0 dB

Medium parameters used (interpolated): $f = 1720$ MHz; $\sigma = 1.35$ S/m; $\epsilon_r = 40.218$; $\rho = 1000$ kg/m³

Phantom section: Flat Section

DASY5 Configuration:

- Probe: EX3DV4 - SN7957; ConvF(7.68, 7.86, 8.15); Calibrated: 06/10/2025;
- Modulation Compensation:
- Sensor-Surface: 4mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn899; Calibrated: 19/06/2025
- Phantom: SAM 1; Type: SAM; Serial: TP-1543
- Measurement SW: DASY52, Version 52.8 (8); SEMCAD X Version 14.6.10 (7331)

Configuration/CH132072(1720MHz Back)/Area Scan (61x61x1): Interpolated

grid: dx=1.500 mm, dy=1.500 mm

Maximum value of SAR (interpolated) = 0.826 W/kg

Configuration/CH132072(1720MHz Back)/Zoom Scan (5x5x7)/Cube 0:

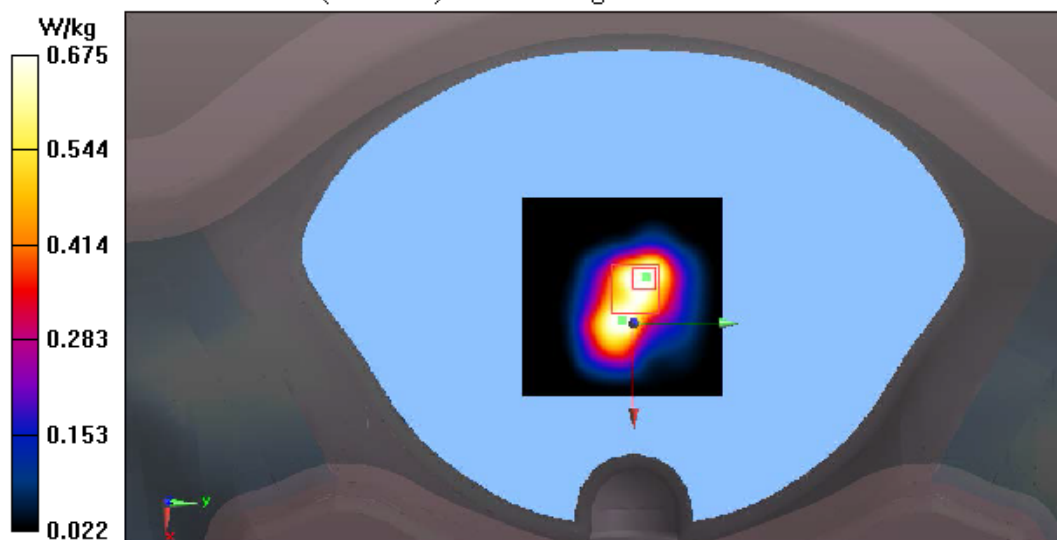
Measurement grid: dx=8mm, dy=8mm, dz=5mm

Reference Value = 22.46 V/m; Power Drift = -0.01 dB

Peak SAR (extrapolated) = 0.842 W/kg

SAR(1 g) = 0.638 W/kg; SAR(10 g) = 0.478 W/kg

Maximum value of SAR (measured) = 0.675 W/kg



APPENDIX B

Graph Results (WIFI 2.4GHz)

WIFI 2.4GHz:

Test Laboratory: Audix SAR Lab

Date: 09/03/2026

CH1(2412MHz Back)

DUT: Starway Global USB WiFi Stick M/N:ST2

Communication System: UID 0, IEEE 802.11b WiFi 2.4 GHz (DSSS, 1 Mbps) (0);

Communication System Band: ISM 2.4GHz Band (2400.0-2483.5MHz); Frequency: 2412

MHz; Communication System PAR: 0 dB

Medium parameters used: $f = 2412$ MHz; $\sigma = 1.841$ S/m; $\epsilon_r = 38.849$; $\rho = 1000$ kg/m³

Phantom section: Flat Section

DASY5 Configuration:

- Probe: EX3DV4 - SN7957; ConvF(7.1, 7.27, 7.53); Calibrated: 06/10/2025;
- Modulation Compensation:
- Sensor-Surface: 4mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn899; Calibrated: 19/06/2025
- Phantom: SAM 1; Type: SAM; Serial: TP-1543
- Measurement SW: DASY52, Version 52.8 (8); SEMCAD X Version 14.6.10 (7331)

Configuration/CH1(2412MHz Back)/Area Scan (61x61x1): Interpolated grid:

$dx=1.500$ mm, $dy=1.500$ mm

Maximum value of SAR (interpolated) = 0.0813 W/kg

Configuration/CH1(2412MHz Back)/Zoom Scan (5x5x7)/Cube 0: Measurement

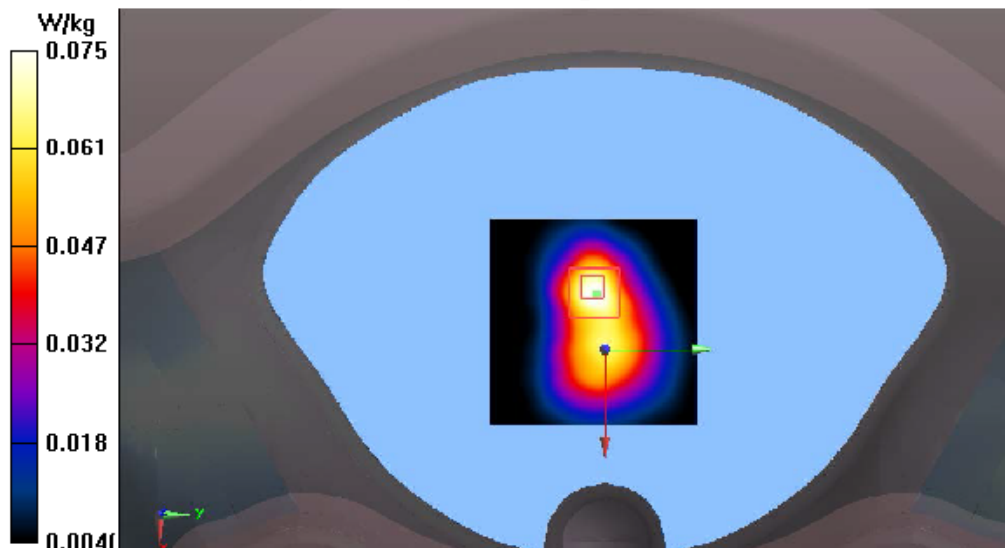
grid: $dx=8$ mm, $dy=8$ mm, $dz=5$ mm

Reference Value = 5.665 V/m; Power Drift = 0.12 dB

Peak SAR (extrapolated) = 0.0990 W/kg

SAR(1 g) = 0.071 W/kg; SAR(10 g) = 0.043 W/kg

Maximum value of SAR (measured) = 0.0751 W/kg



Test Laboratory: Audix SAR Lab

Date: 09/03/2026

CH6(2437MHz Back)

DUT: Starway Global USB WiFi Stick M/N:ST2

Communication System: UID 0, IEEE 802.11b WiFi 2.4 GHz (DSSS, 1 Mbps) (0);

Communication System Band: ISM 2.4GHz Band (2400.0-2483.5MHz); Frequency: 2437

MHz; Communication System PAR: 0 dB

Medium parameters used (interpolated): $f = 2437$ MHz; $\sigma = 1.873$ S/m; $\epsilon_r = 38.753$; $\rho = 1000$ kg/m³

Phantom section: Flat Section

DASY5 Configuration:

- Probe: EX3DV4 - SN7957; ConvF(7.1, 7.27, 7.53); Calibrated: 06/10/2025;
- Modulation Compensation:
- Sensor-Surface: 4mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn899; Calibrated: 19/06/2025
- Phantom: SAM 1; Type: SAM; Serial: TP-1543
- Measurement SW: DASY52, Version 52.8 (8); SEMCAD X Version 14.6.10 (7331)

Configuration/CH6(2437MHz Back)/Area Scan (61x61x1): Interpolated grid:

$dx=1.500$ mm, $dy=1.500$ mm

Maximum value of SAR (interpolated) = 0.107 W/kg

Configuration/CH6(2437MHz Back)/Zoom Scan (5x5x7)/Cube 0: Measurement

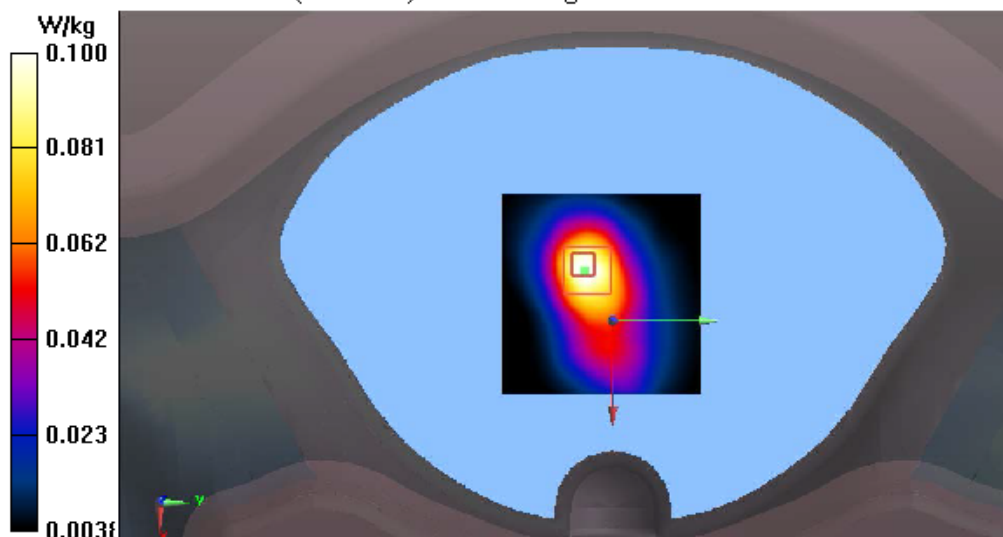
grid: $dx=8$ mm, $dy=8$ mm, $dz=5$ mm

Reference Value = 6.302 V/m; Power Drift = -0.14 dB

Peak SAR (extrapolated) = 0.127 W/kg

SAR(1 g) = 0.093 W/kg; SAR(10 g) = 0.059 W/kg

Maximum value of SAR (measured) = 0.100 W/kg



Test Laboratory: Audix SAR Lab

Date: 09/03/2026

CH11(2462MHz Back)

DUT: Starway Global USB WiFi Stick M/N:ST2

Communication System: UID 0, IEEE 802.11b WiFi 2.4 GHz (DSSS, 1 Mbps) (0);

Communication System Band: ISM 2.4GHz Band (2400.0-2483.5MHz); Frequency: 2462

MHz; Communication System PAR: 0 dB

Medium parameters used: $f = 2462$ MHz; $\sigma = 1.899$ S/m; $\epsilon_r = 38.666$; $\rho = 1000$ kg/m³

Phantom section: Flat Section

DASY5 Configuration:

- Probe: EX3DV4 - SN7957; ConvF(7.1, 7.27, 7.53); Calibrated: 06/10/2025;
- Modulation Compensation:
- Sensor-Surface: 4mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn899; Calibrated: 19/06/2025
- Phantom: SAM 1; Type: SAM; Serial: TP-1543
- Measurement SW: DASY52, Version 52.8 (8); SEMCAD X Version 14.6.10 (7331)

Configuration/CH11(2462MHz Back)/Area Scan (61x61x1): Interpolated grid:

$dx=1.500$ mm, $dy=1.500$ mm

Maximum value of SAR (interpolated) = 0.0881 W/kg

Configuration/CH11(2462MHz Back)/Zoom Scan (5x5x7)/Cube 0:

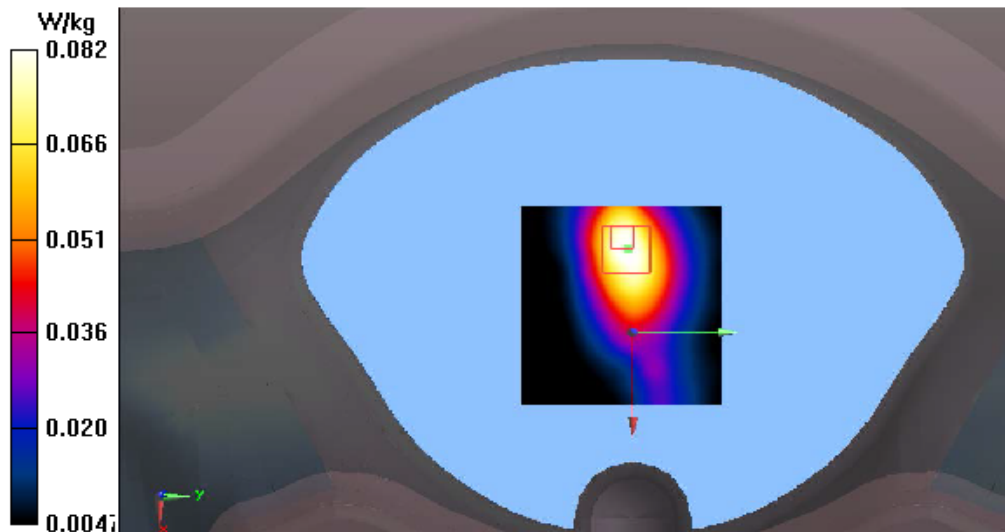
Measurement grid: $dx=8$ mm, $dy=8$ mm, $dz=5$ mm

Reference Value = 5.787 V/m; Power Drift = 0.13 dB

Peak SAR (extrapolated) = 0.107 W/kg

SAR(1 g) = 0.077 W/kg; SAR(10 g) = 0.051 W/kg

Maximum value of SAR (measured) = 0.0818 W/kg



Test Laboratory: Audix SAR Lab

Date: 09/03/2026

CH11(2462MHz Front)

DUT: Starway Global USB WiFi Stick M/N:ST2

Communication System: UID 0, IEEE 802.11b WiFi 2.4 GHz (DSSS, 1 Mbps) (0);

Communication System Band: ISM 2.4GHz Band (2400.0-2483.5MHz); Frequency: 2462

MHz; Communication System PAR: 0 dB

Medium parameters used: $f = 2462$ MHz; $\sigma = 1.899$ S/m; $\epsilon_r = 38.666$; $\rho = 1000$ kg/m³

Phantom section: Flat Section

DASY5 Configuration:

- Probe: EX3DV4 - SN7957; ConvF(7.1, 7.27, 7.53); Calibrated: 06/10/2025;
- Modulation Compensation:
- Sensor-Surface: 4mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn899; Calibrated: 19/06/2025
- Phantom: SAM 1; Type: SAM; Serial: TP-1543
- Measurement SW: DASY52, Version 52.8 (8); SEMCAD X Version 14.6.10 (7331)

Configuration/CH11(2462MHz Front)/Area Scan (61x61x1): Interpolated grid:

$dx=1.500$ mm, $dy=1.500$ mm

Maximum value of SAR (interpolated) = 0.0654 W/kg

Configuration/CH11(2462MHz Front)/Zoom Scan (5x5x7)/Cube 0:

Measurement grid: $dx=8$ mm, $dy=8$ mm, $dz=5$ mm

Reference Value = 2.285 V/m; Power Drift = 0.12 dB

Peak SAR (extrapolated) = 0.0870 W/kg

SAR(1 g) = 0.060 W/kg; SAR(10 g) = 0.041 W/kg

Maximum value of SAR (measured) = 0.0688 W/kg



Test Laboratory: Audix SAR Lab

Date: 09/03/2026

CH11(2462MHz Left)

DUT: Starway Global USB WiFi Stick M/N:ST2

Communication System: UID 0, IEEE 802.11b WiFi 2.4 GHz (DSSS, 1 Mbps) (0);

Communication System Band: ISM 2.4GHz Band (2400.0-2483.5MHz); Frequency: 2462

MHz; Communication System PAR: 0 dB

Medium parameters used: $f = 2462$ MHz; $\sigma = 1.899$ S/m; $\epsilon_r = 38.666$; $\rho = 1000$ kg/m³

Phantom section: Flat Section

DASY5 Configuration:

- Probe: EX3DV4 - SN7957; ConvF(7.1, 7.27, 7.53); Calibrated: 06/10/2025;
- Modulation Compensation:
- Sensor-Surface: 4mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn899; Calibrated: 19/06/2025
- Phantom: SAM 1; Type: SAM; Serial: TP-1543
- Measurement SW: DASY52, Version 52.8 (8); SEMCAD X Version 14.6.10 (7331)

Configuration/CH11(2462MHz Left)/Area Scan (61x61x1): Interpolated grid:

$dx=1.500$ mm, $dy=1.500$ mm

Maximum value of SAR (interpolated) = 0.0497 W/kg

Configuration/CH11(2462MHz Left)/Zoom Scan (5x5x7)/Cube 0: Measurement

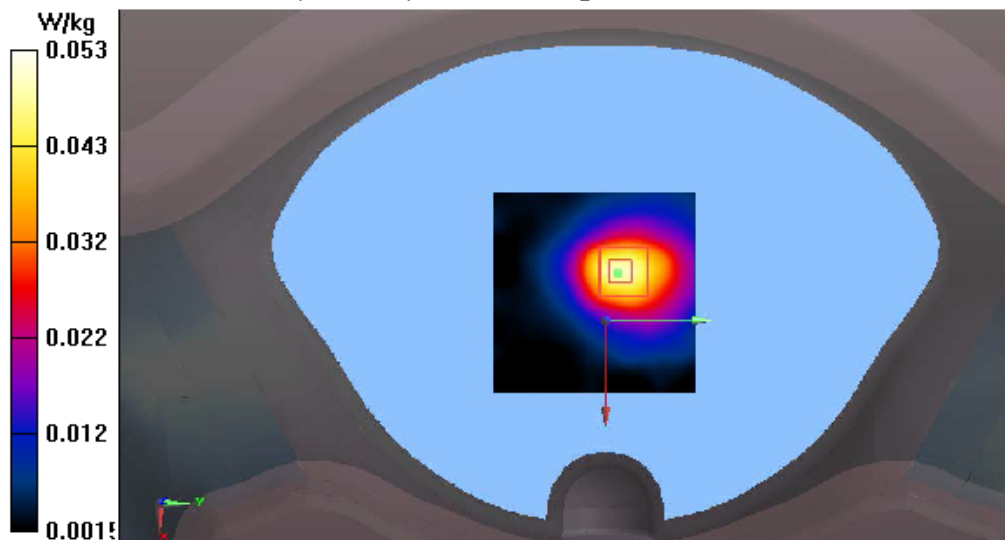
grid: $dx=8$ mm, $dy=8$ mm, $dz=5$ mm

Reference Value = 4.915 V/m; Power Drift = 0.11 dB

Peak SAR (extrapolated) = 0.0670 W/kg

SAR(1 g) = 0.048 W/kg; SAR(10 g) = 0.031 W/kg

Maximum value of SAR (measured) = 0.0528 W/kg



Test Laboratory: Audix SAR Lab

Date: 09/03/2026

CH11(2462MHz Right)

DUT: Starway Global USB WiFi Stick M/N:ST2

Communication System: UID 0, IEEE 802.11b WiFi 2.4 GHz (DSSS, 1 Mbps) (0);

Communication System Band: ISM 2.4GHz Band (2400.0-2483.5MHz); Frequency: 2462

MHz; Communication System PAR: 0 dB

Medium parameters used: $f = 2462$ MHz; $\sigma = 1.899$ S/m; $\epsilon_r = 38.666$; $\rho = 1000$ kg/m³

Phantom section: Flat Section

DASY5 Configuration:

- Probe: EX3DV4 - SN7957; ConvF(7.1, 7.27, 7.53); Calibrated: 06/10/2025;
- Modulation Compensation:
- Sensor-Surface: 4mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn899; Calibrated: 19/06/2025
- Phantom: SAM 1; Type: SAM; Serial: TP-1543
- Measurement SW: DASY52, Version 52.8 (8); SEMCAD X Version 14.6.10 (7331)

Configuration/CH11(2462MHz Right)/Area Scan (61x61x1): Interpolated grid:

$dx=1.500$ mm, $dy=1.500$ mm

Maximum value of SAR (interpolated) = 0.0243 W/kg

Configuration/CH11(2462MHz Right)/Zoom Scan (5x5x7)/Cube 0:

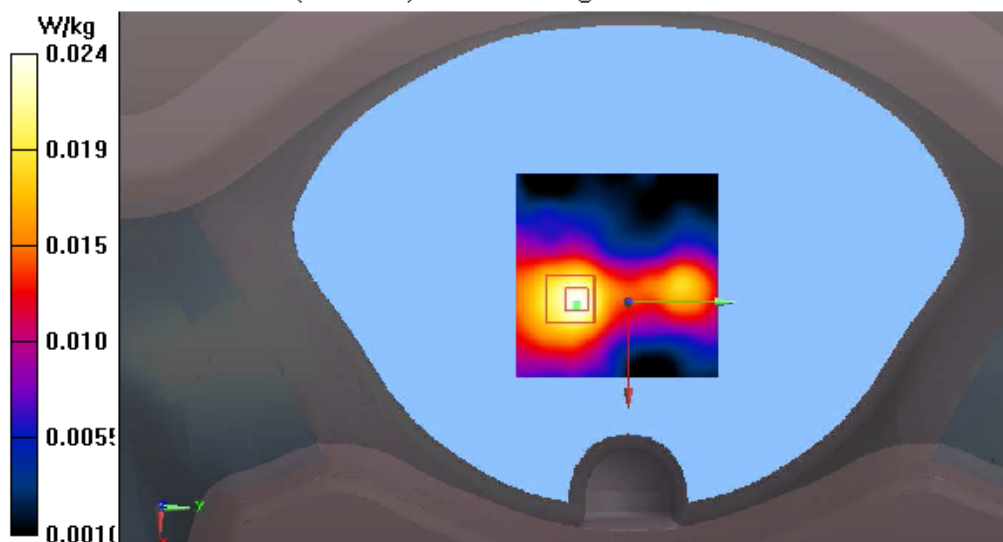
Measurement grid: $dx=8$ mm, $dy=8$ mm, $dz=5$ mm

Reference Value = 2.299 V/m; Power Drift = -0.12 dB

Peak SAR (extrapolated) = 0.0320 W/kg

SAR(1 g) = 0.022 W/kg; SAR(10 g) = 0.015 W/kg

Maximum value of SAR (measured) = 0.0236 W/kg



Test Laboratory: Audix SAR Lab

Date: 09/03/2026

CH11(2462MHz Top)

DUT: Starway Global USB WiFi Stick M/N:ST2

Communication System: UID 0, IEEE 802.11b WiFi 2.4 GHz (DSSS, 1 Mbps) (0);

Communication System Band: ISM 2.4GHz Band (2400.0-2483.5MHz); Frequency: 2462

MHz; Communication System PAR: 0 dB

Medium parameters used: $f = 2462$ MHz; $\sigma = 1.899$ S/m; $\epsilon_r = 38.666$; $\rho = 1000$ kg/m³

Phantom section: Flat Section

DASY5 Configuration:

- Probe: EX3DV4 - SN7957; ConvF(7.1, 7.27, 7.53); Calibrated: 06/10/2025;
- Modulation Compensation:
- Sensor-Surface: 4mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn899; Calibrated: 19/06/2025
- Phantom: SAM 1; Type: SAM; Serial: TP-1543
- Measurement SW: DASY52, Version 52.8 (8); SEMCAD X Version 14.6.10 (7331)

Configuration/CH11(2462MHz Top)/Area Scan (61x61x1): Interpolated grid:

$dx=1.500$ mm, $dy=1.500$ mm

Maximum value of SAR (interpolated) = 0.0762 W/kg

Configuration/CH11(2462MHz Top)/Zoom Scan (5x5x7)/Cube 0: Measurement

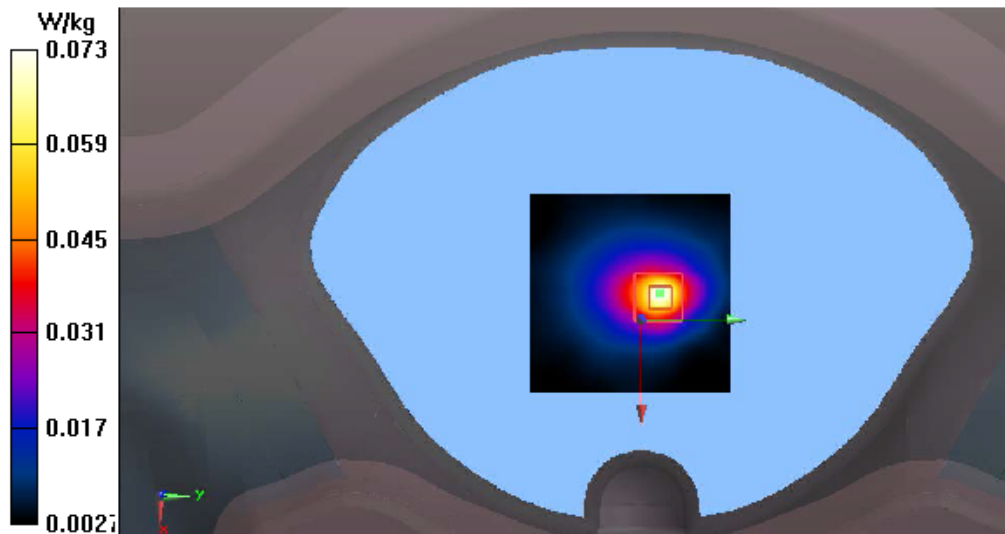
grid: $dx=8$ mm, $dy=8$ mm, $dz=5$ mm

Reference Value = 5.012 V/m; Power Drift = -0.17 dB

Peak SAR (extrapolated) = 0.0910 W/kg

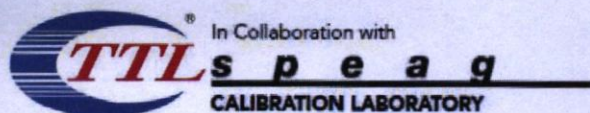
SAR(1 g) = 0.066 W/kg; SAR(10 g) = 0.038 W/kg

Maximum value of SAR (measured) = 0.0733 W/kg



APPENDIX C

DASY Calibration Certificate



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



中国认可
国际互认
校准
CALIBRATION
CNAS L0570



Client: **Audix(Shenzhen)**

Certificate No: **25J02Z000412**

CALIBRATION CERTIFICATE

Object **D750V3 - SN: 1159**

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

Calibration date: **June 18, 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 3846	28-May-25(CTTL-SPEAG, No. 25J02Z000277)	May-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
Calibrated by:	Zhao Jing	SAR Test Engineer
Reviewed by:	Lin Jun	SAR Test Engineer
Approved by:	Qi Dianyuan	SAR Project Leader



Issued: June 25, 2025

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<http://www.caict.ac.cn>**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	V52.10.4
Extrapolation	Advanced Extrapolation	
Phantom	Triple Flat Phantom 5.1C	
Distance Dipole Center - TSL	15 mm	with Spacer
Zoom Scan Resolution	dx, dy, dz = 5 mm	
Frequency	750 MHz $\pm$ 1 MHz	

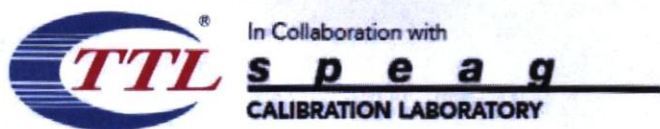
Head TSL parameters

The following parameters and calculations were applied.

	Temperature	Permittivity	Conductivity
Nominal Head TSL parameters	22.0 °C	41.9	0.89 mho/m
Measured Head TSL parameters	(22.0 $\pm$ 0.2) °C	41.6 $\pm$ 6 %	0.91 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	2.15 W/kg
SAR for nominal Head TSL parameters	normalized to 1W	8.46 W/kg $\pm$ 20 % (k=2)
SAR averaged over 10 cm ³ (10 g) of Head TSL	Condition	
SAR measured	250 mW input power	1.39 W/kg
SAR for nominal Head TSL parameters	normalized to 1W	5.49 W/kg $\pm$ 20 % (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	52.2Ω- 1.61jΩ
Return Loss	- 31.6dB

General Antenna Parameters and Design

Electrical Delay (one direction)	0.940 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: 2025-06-18

Test Laboratory: CTTL, Beijing, China

DUT: Dipole 750 MHz; Type: D750V3; Serial: D750V3 - SN: 1159

Communication System: UID 0, CW; Frequency: 750 MHz

Medium parameters used: $f = 750 \text{ MHz}$; $\sigma = 0.908 \text{ S/m}$; $\epsilon_r = 41.58$; $\rho = 1000 \text{ kg/m}^3$

Phantom section: Right Section

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

DASY5 Configuration:

- Probe: EX3DV4 - SN3846; ConvF(9.93, 9.93, 9.93) @ 750 MHz; Calibrated: 2025-05-28
- 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/Zoom Scan (7x7x7) (7x7x7)/Cube 0: Measurement grid: $dx=5\text{mm}$, $dy=5\text{mm}$, $dz=5\text{mm}$

Reference Value = 54.78 V/m; Power Drift = 0.03 dB

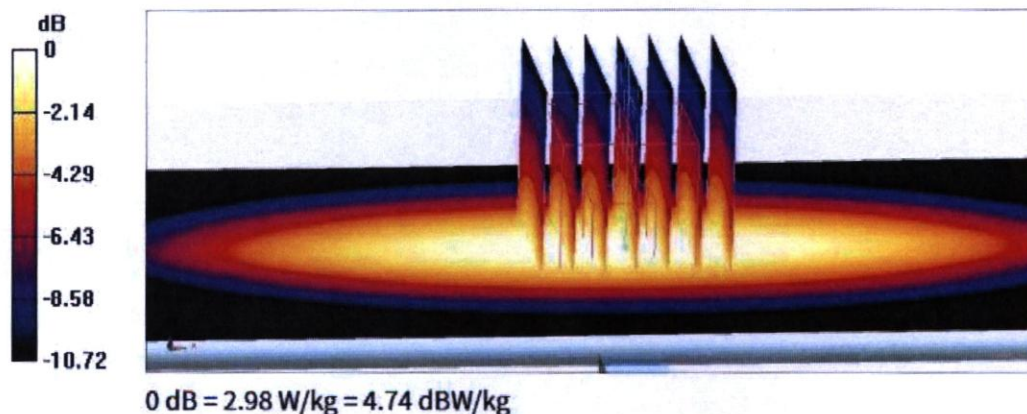
Peak SAR (extrapolated) = 3.49 W/kg

SAR(1 g) = 2.15 W/kg; SAR(10 g) = 1.39 W/kg

Smallest distance from peaks to all points 3 dB below: Larger than measurement grid (> 15 mm)

Ratio of SAR at M2 to SAR at M1 = 61.9%

Maximum value of SAR (measured) = 2.98 W/kg



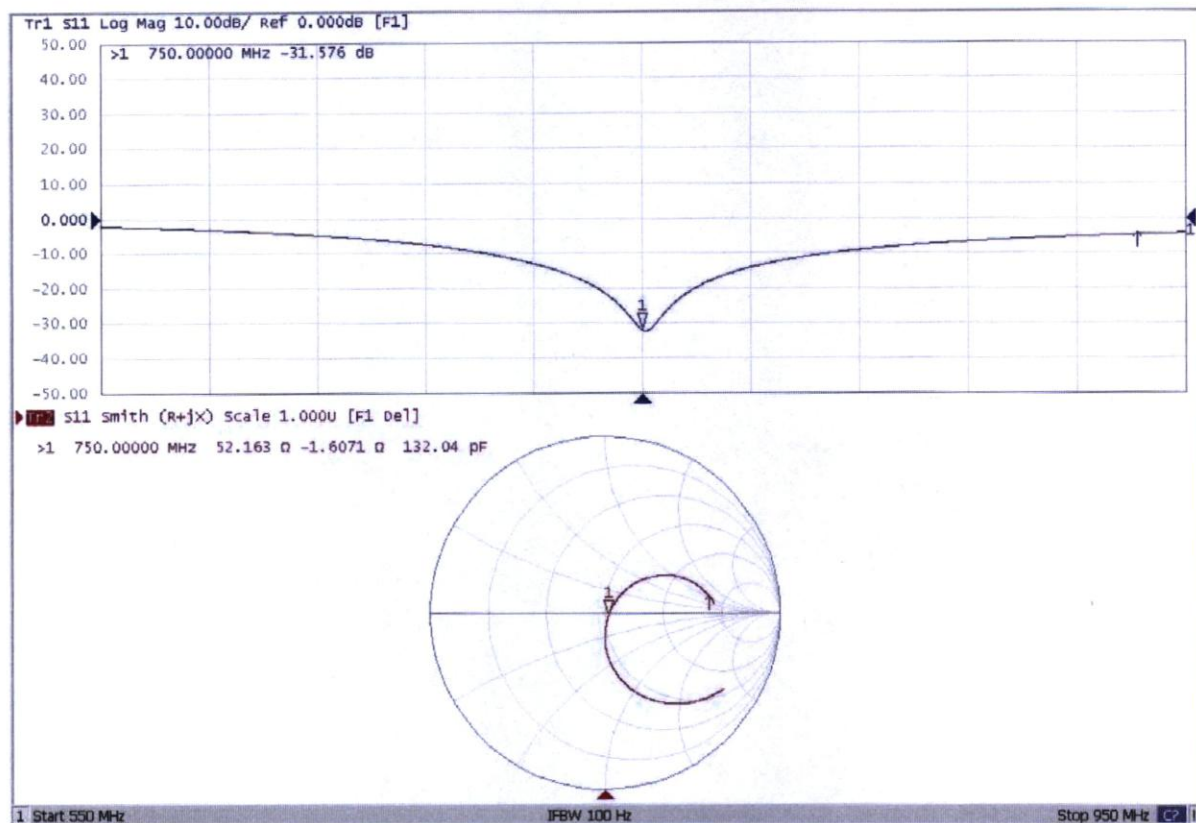


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Impedance Measurement Plot for Head TSL





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CALIBRATION CERTIFICATE

Object **D900V2 - SN: 1d088**

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

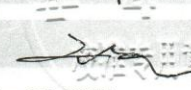
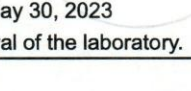
Calibration date: **May 23, 2023**

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

All calibrations have been conducted in the closed laboratory facility: environment temperature (22±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	106277	22-Sep-22 (CTTL, No.J22X09561)	Sep-23
Power sensor NRP8S	104291	22-Sep-22 (CTTL, No.J22X09561)	Sep-23
Reference Probe EX3DV4	SN 3617	31-Mar-23(CTTL-SPEAG,No.Z23-60161)	Mar-24
DAE4	SN 1556	11-Jan-23(CTTL-SPEAG,No.Z23-60034)	Jan-24
Secondary Standards	ID #	Cal Date (Calibrated by, Certificate No.)	Scheduled Calibration
Signal Generator E4438C	MY49071430	05-Jan-23 (CTTL, No. J23X00107)	Jan-24
NetworkAnalyzer E5071C	MY46110673	10-Jan-23 (CTTL, No. J23X00104)	Jan-24

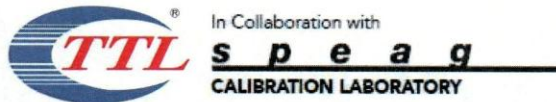
	Name	Function	Signature
Calibrated by:	Zhao Jing	SAR Test Engineer	
Reviewed by:	Lin Hao	SAR Test Engineer	
Approved by:	Qi Dianyuan	SAR Project Leader	

Issued: May 30, 2023

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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"

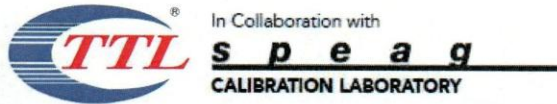
Additional Documentation:

- 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	15 mm	with Spacer
Zoom Scan Resolution	dx, dy, dz = 5 mm	
Frequency	900 MHz $\pm$ 1 MHz	

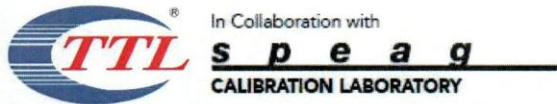
Head TSL parameters

The following parameters and calculations were applied.

	Temperature	Permittivity	Conductivity
Nominal Head TSL parameters	22.0 °C	41.5	0.97 mho/m
Measured Head TSL parameters	(22.0 $\pm$ 0.2) °C	40.6 $\pm$ 6 %	0.95 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	2.67 W/kg
SAR for nominal Head TSL parameters	normalized to 1W	10.8 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	1.73 W/kg
SAR for nominal Head TSL parameters	normalized to 1W	6.99 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	48.2Ω- 7.76jΩ
Return Loss	- 21.8dB

General Antenna Parameters and Design

Electrical Delay (one direction)	1.313 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: 2023-05-23

Test Laboratory: CTTL, Beijing, China

DUT: Dipole 900 MHz; Type: D900V2; Serial: D900V2 - SN: 1d088

Communication System: UID 0, CW; Frequency: 900 MHz; Duty Cycle: 1:1

Medium parameters used: $f = 900 \text{ MHz}$; $\sigma = 0.948 \text{ S/m}$; $\epsilon_r = 40.57$; $\rho = 1000 \text{ kg/m}^3$

Phantom section: Right Section

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

DASY5 Configuration:

- Probe: EX3DV4 - SN3617; ConvF(9.68, 9.68, 9.68) @ 900 MHz; Calibrated: 2023-03-31
- Sensor-Surface: 1.4mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn1556; Calibrated: 2023-01-11
- 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: $dx=5\text{mm}$, $dy=5\text{mm}$, $dz=5\text{mm}$

Reference Value = 57.60 V/m; Power Drift = -0.04 dB

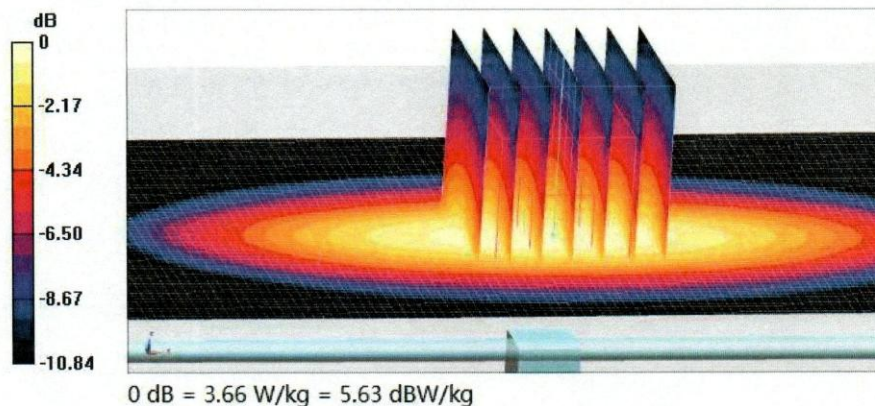
Peak SAR (extrapolated) = 4.24 W/kg

SAR(1 g) = 2.67 W/kg; SAR(10 g) = 1.73 W/kg

Smallest distance from peaks to all points 3 dB below = 16 mm

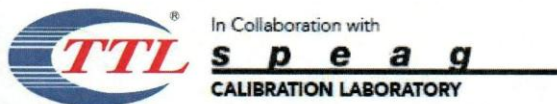
Ratio of SAR at M2 to SAR at M1 = 63.5%

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



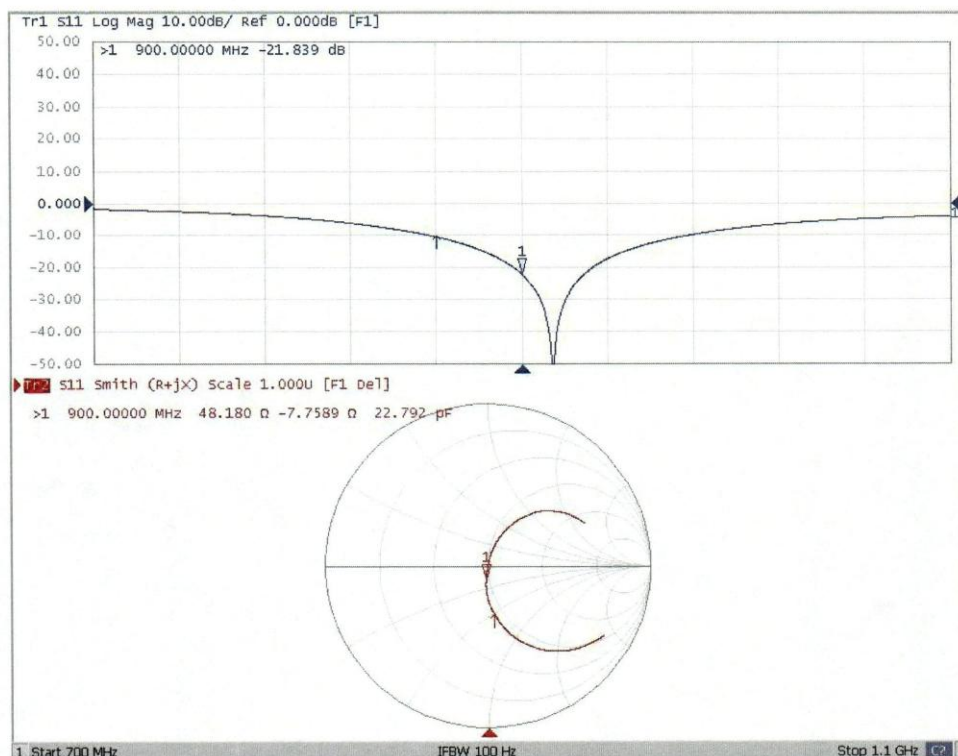
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Impedance Measurement Plot for Head TSL



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Certificate No: **J23Z60242**

CALIBRATION CERTIFICATE

Object **D1800V2 - SN: 2d186**

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

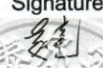
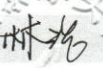
Calibration date: **May 23, 2023**

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Calibration Equipment used (M&TE critical for calibration)

Primary Standards	ID #	Cal Date (Calibrated by, Certificate No.)	Scheduled Calibration
Power Meter NRP2	106277	22-Sep-22 (CTTL, No.J22X09561)	Sep-23
Power sensor NRP8S	104291	22-Sep-22 (CTTL, No.J22X09561)	Sep-23
Reference Probe EX3DV4	SN 3617	31-Mar-23(CTTL-SPEAG,No.Z23-60161)	Mar-24
DAE4	SN 1556	11-Jan-23(CTTL-SPEAG,No.Z23-60034)	Jan-24
Secondary Standards	ID #	Cal Date (Calibrated by, Certificate No.)	Scheduled Calibration
Signal Generator E4438C	MY49071430	05-Jan-23 (CTTL, No. J23X00107)	Jan-24
NetworkAnalyzer E5071C	MY46110673	10-Jan-23 (CTTL, No. J23X00104)	Jan-24

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

Issued: May 30, 2023

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Glossary:

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

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- *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	1800 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	40.2 $\pm$ 6 %	1.42 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	9.97 W/kg
SAR for nominal Head TSL parameters	normalized to 1W	39.5 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	5.28 W/kg
SAR for nominal Head TSL parameters	normalized to 1W	21.0 W/kg $\pm$ 18.7 % (k=2)