

Add: No.52 HuaYuanBei Road, Haidian District, Beijing, 100191, China
Tel: +86-10-62304633-2711
E-mail: emf@caict.ac.cn <http://www.caict.ac.cn>

Measurement Conditions

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

DASY Version	DASY6	V17.0.0
Extrapolation	Advanced Extrapolation	
Phantom	Modular Flat Phantom	
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	5200 MHz $\pm$ 1 MHz 5400 MHz $\pm$ 1 MHz 5600 MHz $\pm$ 1 MHz 5800 MHz $\pm$ 1 MHz	

Head TSL parameters at 5200MHz

The following parameters and calculations were applied.

	Temperature	Permittivity	Conductivity
Nominal Head TSL parameters	22.0 °C	36.0	4.66 mho/m
Measured Head TSL parameters	(22.0 $\pm$ 0.2) °C	35.8 $\pm$ 6 %	4.63 mho/m $\pm$ 6 %
Head TSL temperature change during test	<1.0 °C	----	----

SAR result with Head TSL at 5200MHz

SAR averaged over 1 cm ³ (1 g) of Head TSL	Condition	
SAR measured	100 mW input power	7.62 W/kg
SAR for nominal Head TSL parameters	normalized to 1W	76.1 W/kg $\pm$ 24 % (k=2)
SAR averaged over 10 cm ³ (10 g) of Head TSL	Condition	
SAR measured	100 mW input power	2.10 W/kg
SAR for nominal Head TSL parameters	normalized to 1W	21.1 W/kg $\pm$ 24 % (k=2)

Head TSL parameters at 5400MHz

The following parameters and calculations were applied.

	Temperature	Permittivity	Conductivity
Nominal Head TSL parameters	22.0 °C	35.8	4.86 mho/m
Measured Head TSL parameters	(22.0 $\pm$ 0.2) °C	35.5 $\pm$ 6 %	4.85 mho/m $\pm$ 6 %
Head TSL temperature change during test	<1.0 °C	----	----

SAR result with Head TSL at 5400MHz

SAR averaged over 1 cm ³ (1 g) of Head TSL	Condition	
SAR measured	100 mW input power	7.98 W/kg
SAR for nominal Head TSL parameters	normalized to 1W	79.8 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	22.2 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	35.2 ± 6 %	5.06 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	7.90 W/kg
SAR for nominal Head TSL parameters	normalized to 1W	78.8 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	21.8 W/kg ± 24 % (k=2)

Head TSL parameters at 5800MHz

The following parameters and calculations were applied.

	Temperature	Permittivity	Conductivity
Nominal Head TSL parameters	22.0 °C	35.3	5.27 mho/m
Measured Head TSL parameters	(22.0 ± 0.2) °C	34.8 ± 6 %	5.28 mho/m ± 6 %
Head TSL temperature change during test	<1.0 °C	----	----

SAR result with Head TSL at 5800MHz

SAR averaged over 1 cm ³ (1 g) of Head TSL	Condition	
SAR measured	100 mW input power	7.74 W/kg
SAR for nominal Head TSL parameters	normalized to 1W	77.3 W/kg ± 24 % (k=2)
SAR averaged over 10 cm ³ (10 g) of Head TSL	Condition	
SAR measured	100 mW input power	2.12 W/kg
SAR for nominal Head TSL parameters	normalized to 1W	21.2 W/kg ± 24 % (k=2)

Appendix (Additional assessments outside the scope of CNAS L0570)

Antenna Parameters with Head TSL at 5200MHz

Impedance, transformed to feed point	56.0Ω+ 8.40jΩ
Return Loss	- 20.3dB

Antenna Parameters with Head TSL at 5400MHz

Impedance, transformed to feed point	49.8Ω- 5.29jΩ
Return Loss	- 25.5dB

Antenna Parameters with Head TSL at 5600MHz

Impedance, transformed to feed point	57.0Ω+ 6.36jΩ
Return Loss	- 21.1dB

Antenna Parameters with Head TSL at 5800MHz

Impedance, transformed to feed point	52.3Ω- 1.49jΩ
Return Loss	- 31.5dB

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	MVG
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DASY6 Validation Report for Head TSL

Test Laboratory: CTTL, Beijing, China

Date: 2025-10-23

Summary

Dipole	Frequency [MHz]	TSL	Power [dBm]
SID5000 - SN: 02/21 DIP 5G000-543	5200	HSL	20

Exposure Conditions

Phantom	Position, Test	Band Group,	Frequency	Conversion	TSL Cond.	TSL
Section, TSL	Distance [mm]	UID	[MHz]	Factor	[S/m]	Permittivity
Flat	10	CW,	5200	5.37	4.63	35.8

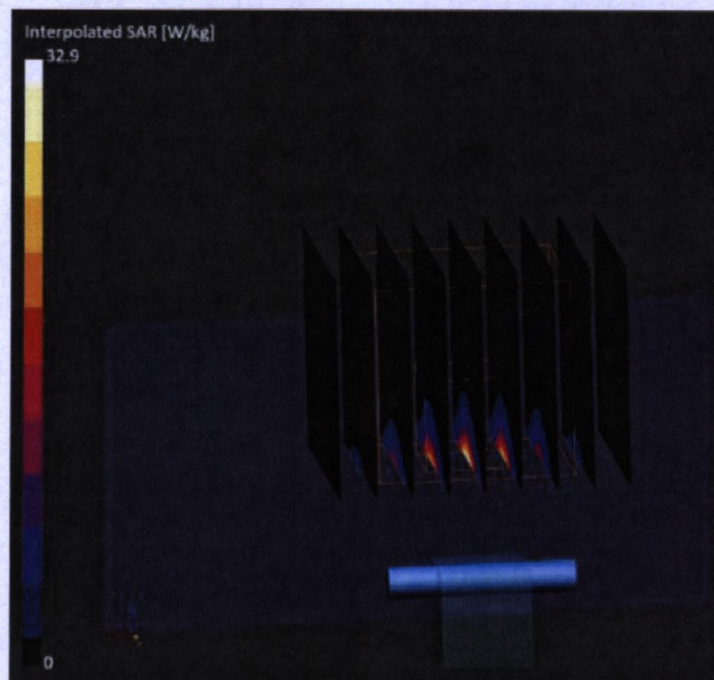
Hardware Setup

Phantom	TSL	Probe, Calibration Date	DAE, Calibration Date
MFP V8.0 Right	HSL5G	EX3DV4 - SN7464, 2025-01-28	DAE4 Sn1588, 2025-08-29

Scan Setup

Measurement Results

	Zoom Scan		Zoom Scan
Grid Extents [mm]	22.0×22.0×22.0	psSAR1g [W/kg]	7.62
Grid Steps [mm]	4.0×4.0×1.4	psSAR10g [W/kg]	2.10
Sensor Surface [mm]	1.4	Power Drift [dB]	0.00
Graded Grid	Yes	Power Scaling	Disabled
Grading Ratio	1.5	Scaling Factor [dB]	
MAIA	N/A	TSL Correction	No correction
Surface Detection	VMS + 6p	M2/M1 [%]	61.1
Scan Method	Measured	Dist 3dB Peak [mm]	6.8



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DASY6 Validation Report for Head TSL

Test Laboratory: CTTL, Beijing, China

Date: 2025-10-23

Summary

Dipole	Frequency [MHz]	TSL	Power [dBm]
SID5000 - SN: 02/21 DIP 5G000-543	5400	HSL	20

Exposure Conditions

Phantom Section, TSL	Position, Test Distance [mm]	Band Group, UID	Frequency [MHz]	Conversion Factor	TSL Cond. [S/m]	TSL Permittivity
Flat	10	CW,	5400	5.2	4.85	35.5

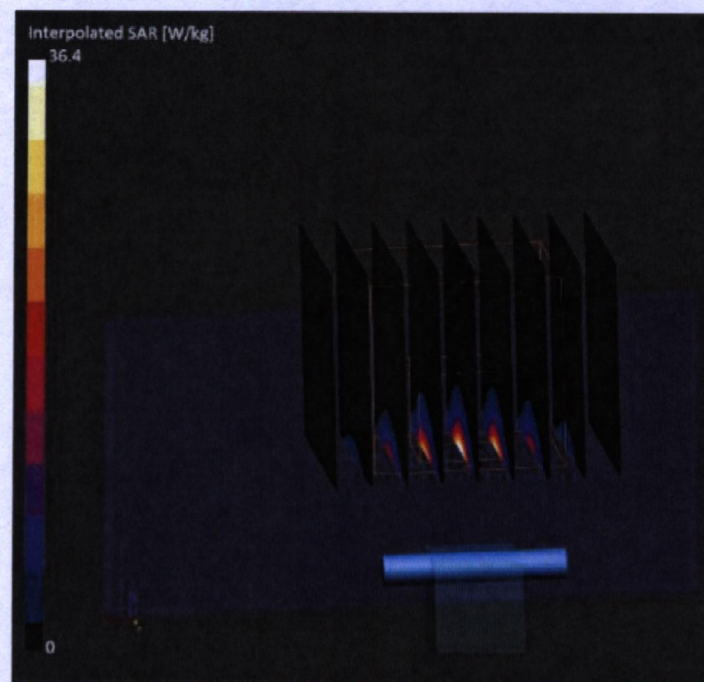
Hardware Setup

Phantom	TSL	Probe, Calibration Date	DAE, Calibration Date
MFP V8.0 Right	HSL5G	EX3DV4 - SN7464, 2025-01-28	DAE4 Sn1588, 2025-08-29

Scan Setup

Measurement Results

	Zoom Scan		Zoom Scan
Grid Extents [mm]	22.0×22.0×22.0	psSAR1g [W/kg]	7.98
Grid Steps [mm]	4.0×4.0×1.4	psSAR10g [W/kg]	2.21
Sensor Surface [mm]	1.4	Power Drift [dB]	0.00
Graded Grid	Yes	Power Scaling	Disabled
Grading Ratio	1.5	Scaling Factor [dB]	
MAIA	N/A	TSL Correction	No correction
Surface Detection	VMS + 6p	M2/M1 [%]	59.3
Scan Method	Measured	Dist 3dB Peak [mm]	6.8



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DASY6 Validation Report for Head TSL

Date: 2025-10-23

Test Laboratory: CTTL, Beijing, China

Summary

Dipole	Frequency [MHz]	TSL	Power [dBm]
SID5000 - SN: 02/21 DIP 5G000-543	5600	HSL	20

Exposure Conditions

Phantom Section, TSL	Position, Test Distance [mm]	Band Group, UID	Frequency [MHz]	Conversion Factor	TSL Cond. [S/m]	TSL Permittivity
Flat	10	CW,	5600	5.04	5.06	35.2

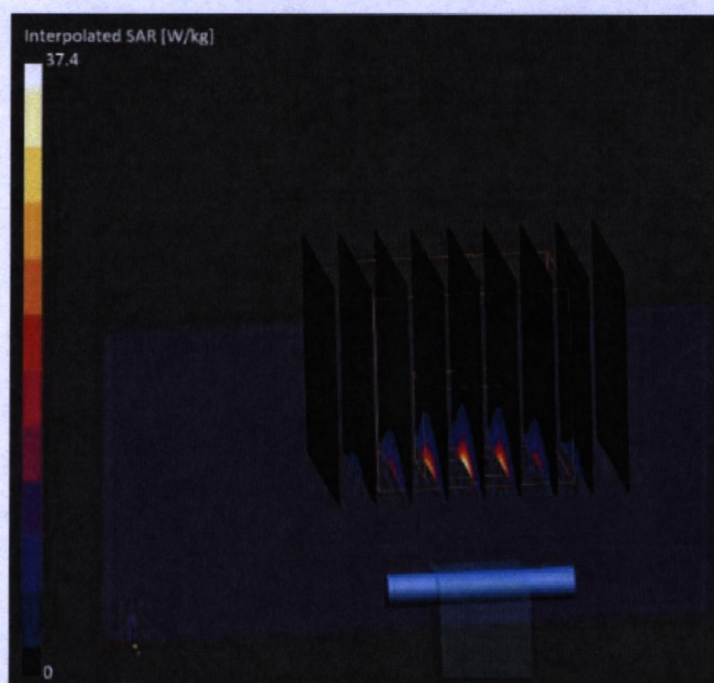
Hardware Setup

Phantom	TSL	Probe, Calibration Date	DAE, Calibration Date
MFP V8.0 Right	HSL5G	EX3DV4 - SN7464, 2025-01-28	DAE4 Sn1588, 2025-08-29

Scan Setup

Measurement Results

	Zoom Scan		Zoom Scan
Grid Extents [mm]	22.0×22.0×22.0	psSAR1g [W/kg]	7.90
Grid Steps [mm]	4.0×4.0×1.4	psSAR10g [W/kg]	2.19
Sensor Surface [mm]	1.4	Power Drift [dB]	0.01
Graded Grid	Yes	Power Scaling	Disabled
Grading Ratio	1.5	Scaling Factor [dB]	
MAIA	N/A	TSL Correction	No correction
Surface Detection	VMS + 6p	M2/M1 [%]	57.5
Scan Method	Measured	Dist 3dB Peak [mm]	6.9



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DASY6 Validation Report for Head TSL

Date: 2025-10-23

Test Laboratory: CTTL, Beijing, China

Summary

Dipole	Frequency [MHz]	TSL	Power [dBm]
SID5000 - SN: 02/21 DIP 5G000-543	5800	HSL	20

Exposure Conditions

Phantom Section, TSL	Position, Test Distance [mm]	Band Group, UID	Frequency [MHz]	Conversion Factor	TSL Cond. [S/m]	TSL Permittivity
Flat	10	CW,	5800	4.91	5.28	34.8

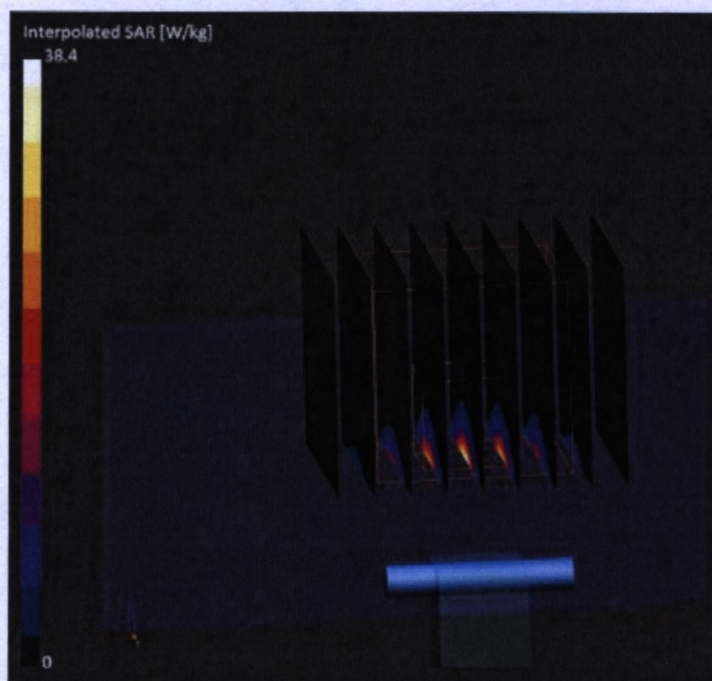
Hardware Setup

Phantom	TSL	Probe, Calibration Date	DAE, Calibration Date
MFP V8.0 Right	HSL5G	EX3DV4 - SN7464, 2025-01-28	DAE4 Sn1588, 2025-08-29

Scan Setup

Measurement Results

	Zoom Scan		Zoom Scan
Grid Extents [mm]	22.0×22.0×22.0	psSAR1g [W/kg]	7.74
Grid Steps [mm]	4.0×4.0×1.4	psSAR10g [W/kg]	2.12
Sensor Surface [mm]	1.4	Power Drift [dB]	-0.02
Graded Grid	Yes	Power Scaling	Disabled
Grading Ratio	1.5	Scaling Factor [dB]	
MAIA	N/A	TSL Correction	No correction
Surface Detection	VMS + 6p	M2/M1 [%]	55.4
Scan Method	Measured	Dist 3dB Peak [mm]	6.9



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Impedance Measurement Plot for Head TSL

