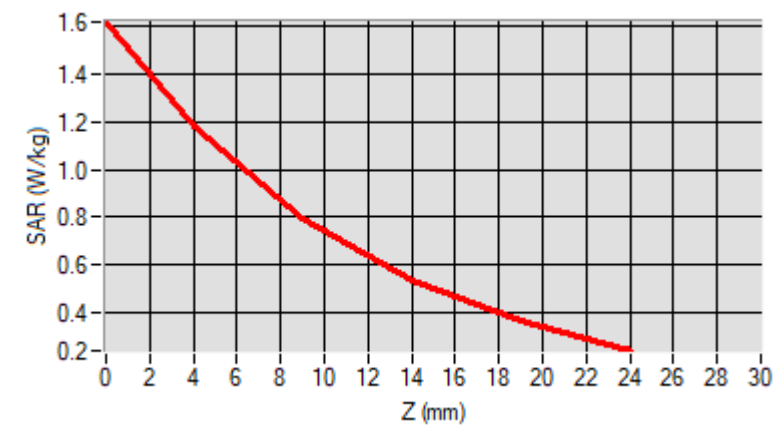
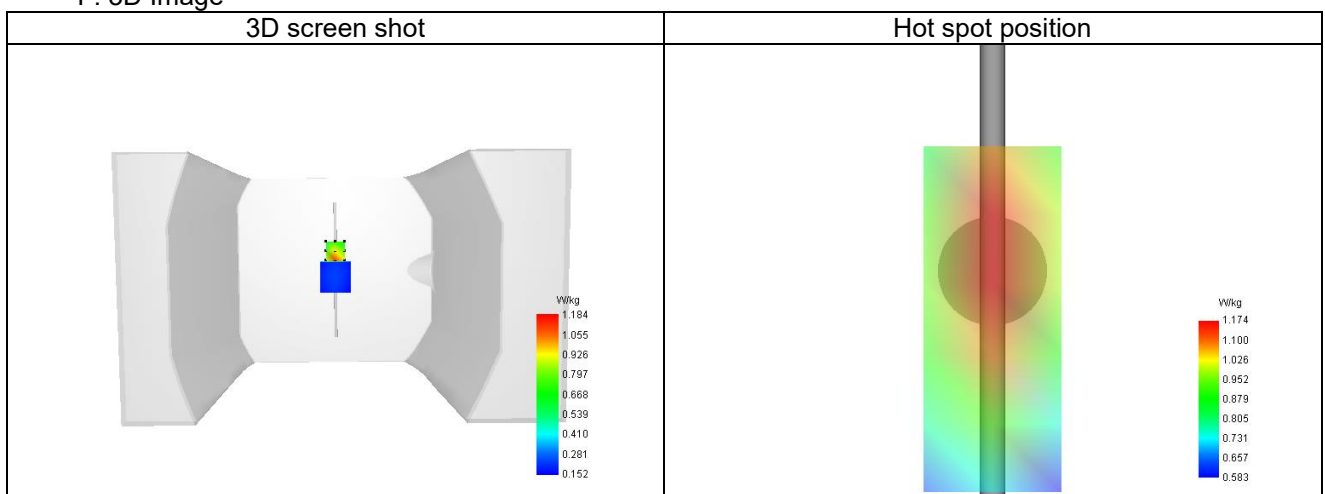




F. 3D Image



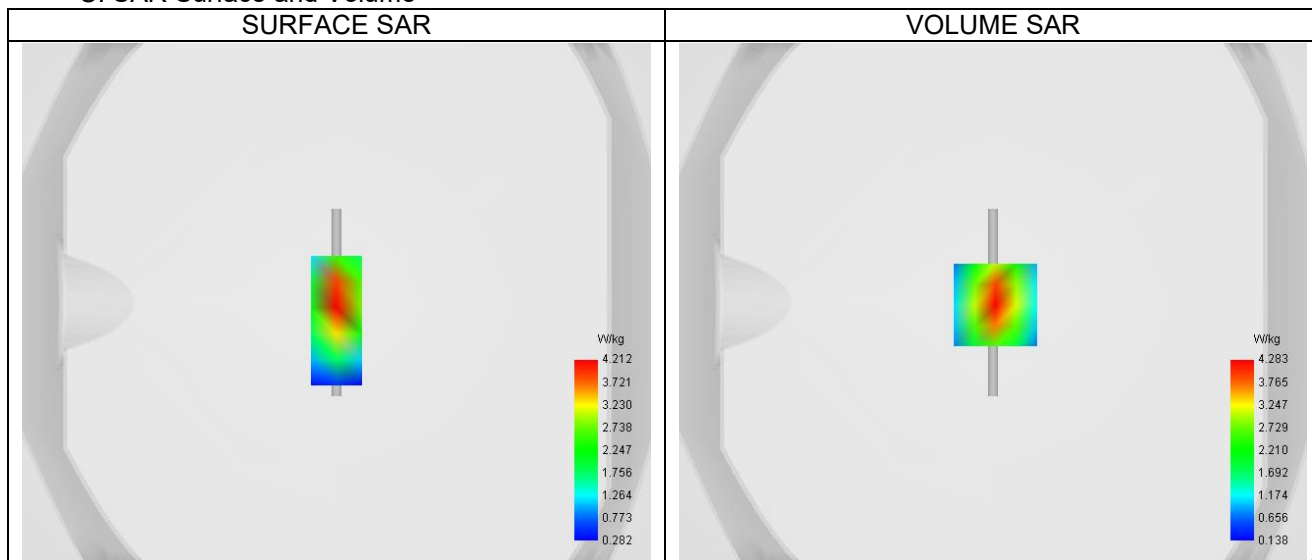
A. Experimental conditions.

Probe	SN EPG0362
ConvF	24.68
Area Scan	dx=10mm dy=10mm, Adaptive 2 max
Zoom Scan	5x5x7, dx=8mm dy=8mm dz=5mm, Very fast
Phantom	Validation plane
Device Position	Dipole
Band	CW1800
Channels	Middle
Signal	CW (Crest factor: 1.0)

B. Permittivity

Frequency (MHz)	1800.000
Relative permittivity (real part)	39.200
Relative permittivity (imaginary part)	15.200
Conductivity (S/m)	1.520

C. SAR Surface and Volume

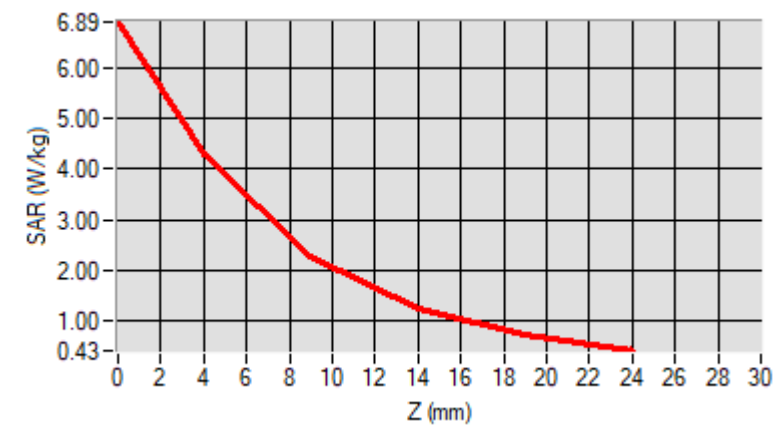


D. SAR 1g & 10g

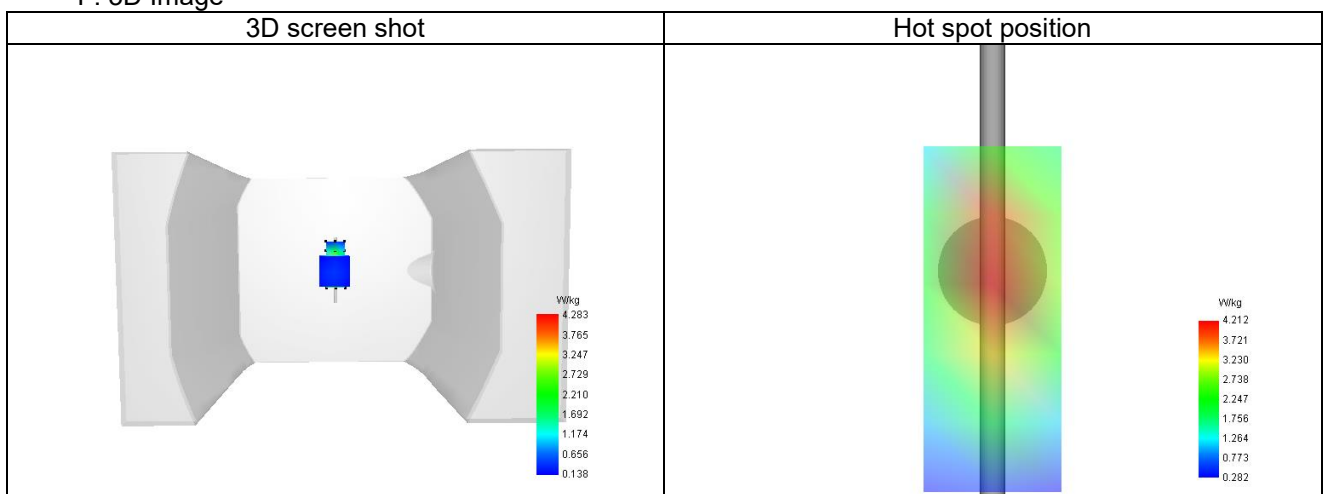
SAR 10g (W/Kg)	1.995
SAR 1g (W/Kg)	3.940
Variation (%)	0.070
Horizontal validation criteria: minimum distance (mm)	0.000000
Vertical validation criteria: SAR ratio M2/M1 (%)	0.000000

E. Z Axis Scan

Z (mm)	0.00	4.00	9.00	14.00	19.00
SAR (W/Kg)	6.889	4.283	2.298	1.249	0.726



F. 3D Image



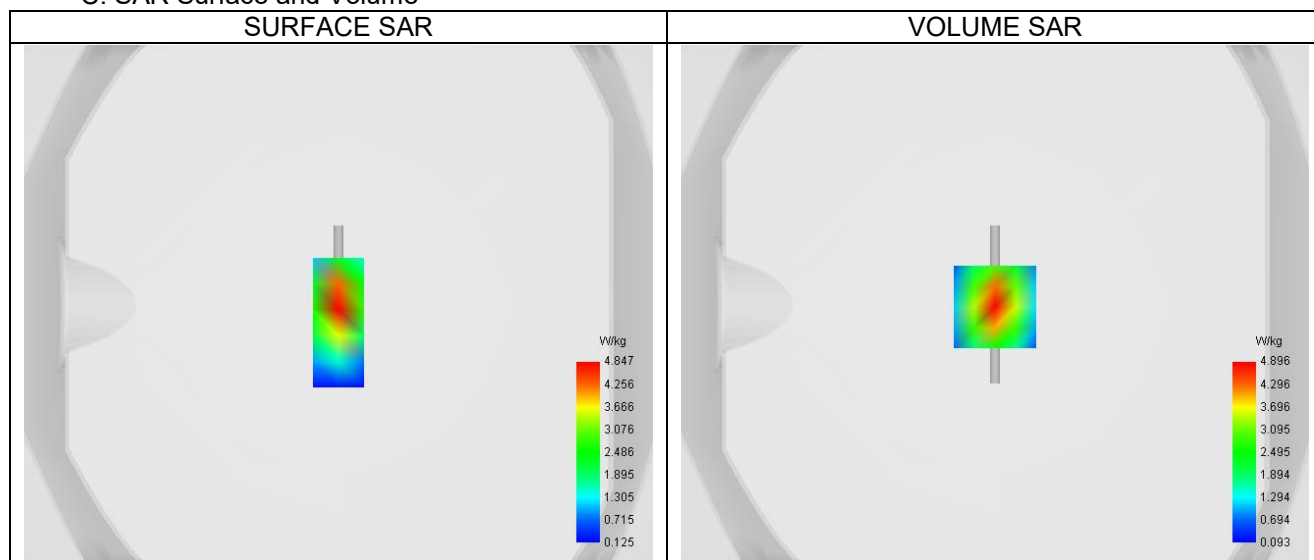
A. Experimental conditions.

Probe	SN EPG0362
ConvF	26.52
Area Scan	dx=10mm dy=10mm, Adaptative 2 max
Zoom Scan	5x5x7,dx=8mm dy=8mm dz=5mm,Very fast
Phantom	Validation plane
Device Position	Dipole
Band	CW2100
Channels	Middle
Signal	CW (Crest factor: 1.0)

B. Permittivity

Frequency (MHz)	2100.000
Relative permittivity (real part)	38.521
Relative permittivity (imaginary part)	13.824
Conductivity (S/m)	1.613

C. SAR Surface and Volume

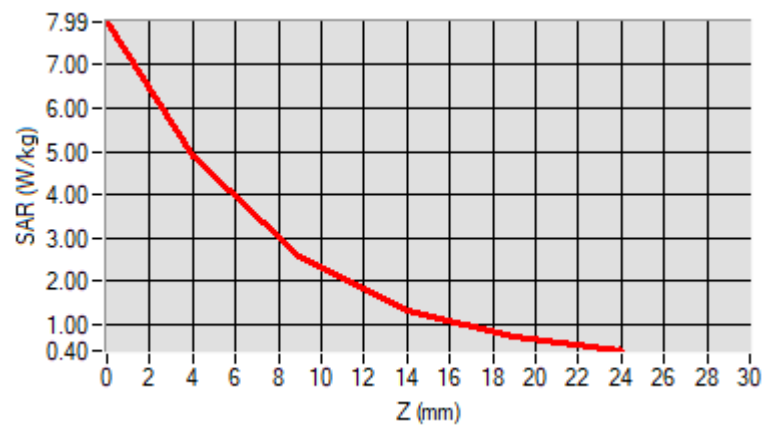


D. SAR 1g & 10g

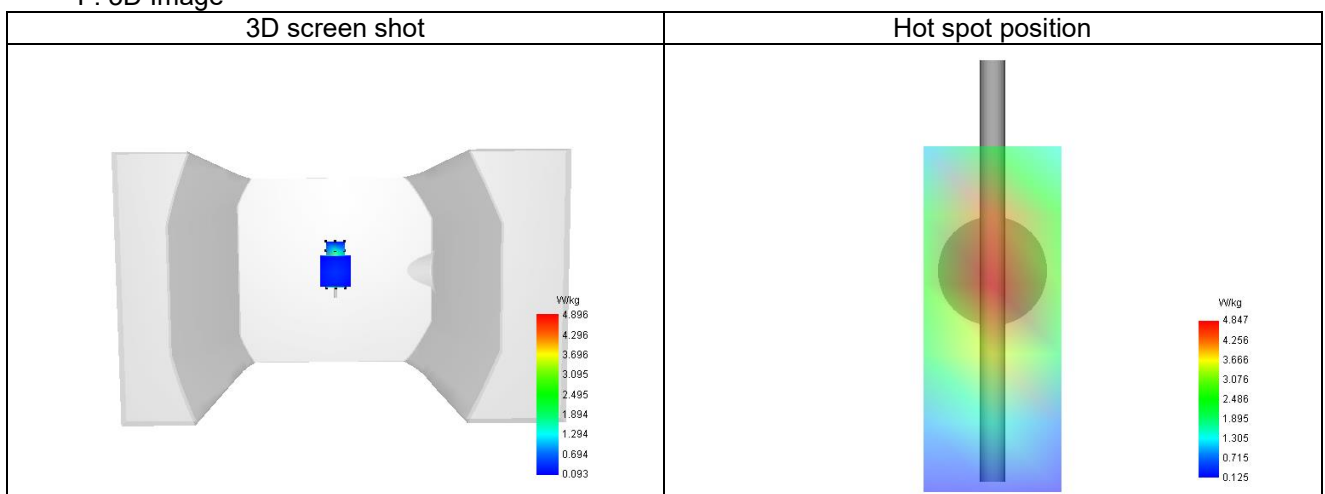
SAR 10g (W/Kg)	2.155
SAR 1g (W/Kg)	4.458
Variation (%)	0.100
Horizontal validation criteria: minimum distance (mm)	0.000000
Vertical validation criteria: SAR ratio M2/M1 (%)	0.000000

E. Z Axis Scan

Z (mm)	0.00	4.00	9.00	14.00	19.00
SAR (W/Kg)	7.987	4.896	2.558	1.335	0.733



F. 3D Image



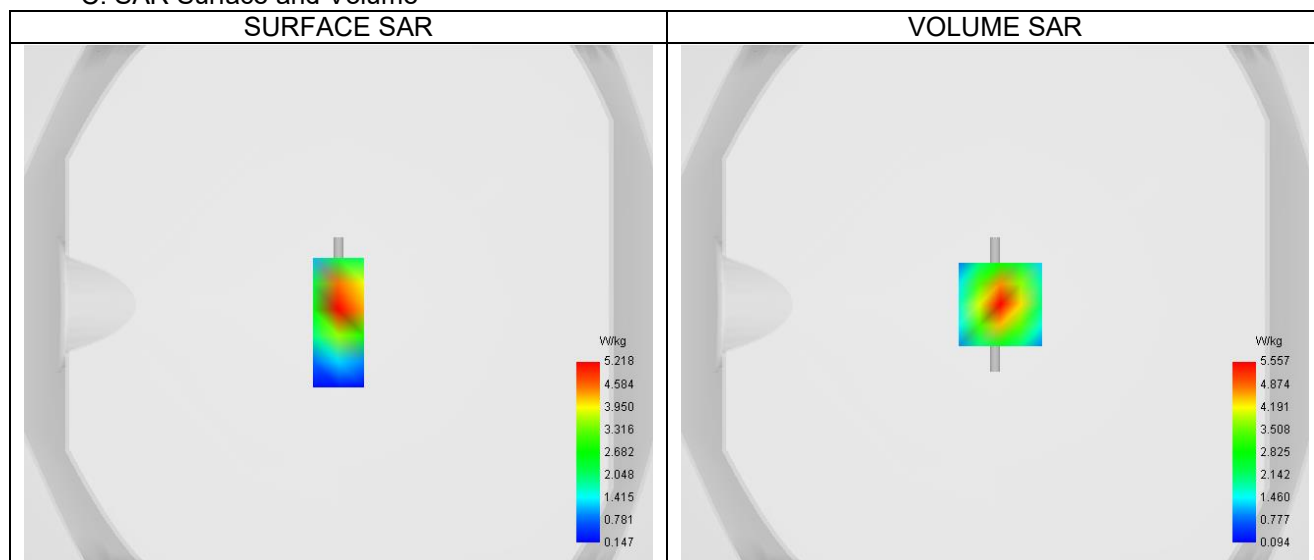
A. Experimental conditions.

Probe	SN EPG0362
ConvF	26.43
Area Scan	dx=10mm dy=10mm, Adaptive 2 max
Zoom Scan	5x5x7, dx=8mm dy=8mm dz=5mm, Very fast
Phantom	Validation plane
Device Position	Dipole
Band	CW2450
Channels	Middle
Signal	CW (Crest factor: 1.0)

B. Permittivity

Frequency (MHz)	2450.000
Relative permittivity (real part)	38.600
Relative permittivity (imaginary part)	14.330
Conductivity (S/m)	1.950

C. SAR Surface and Volume



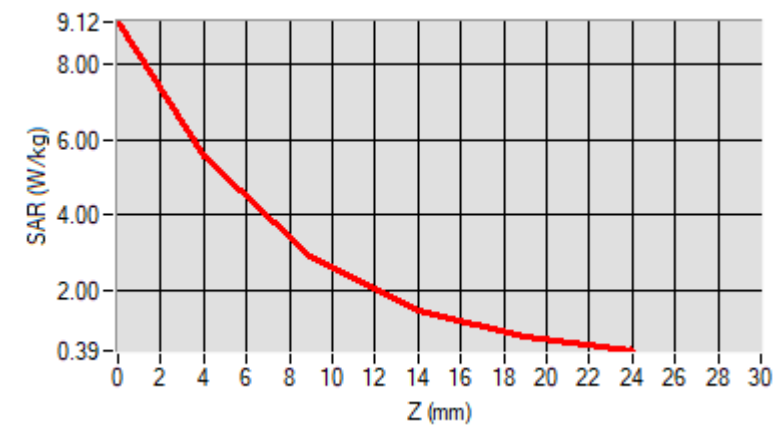
Maximum location: X=2.00, Y=0.00 ; SAR Peak: 9.11 W/kg

D. SAR 1g & 10g

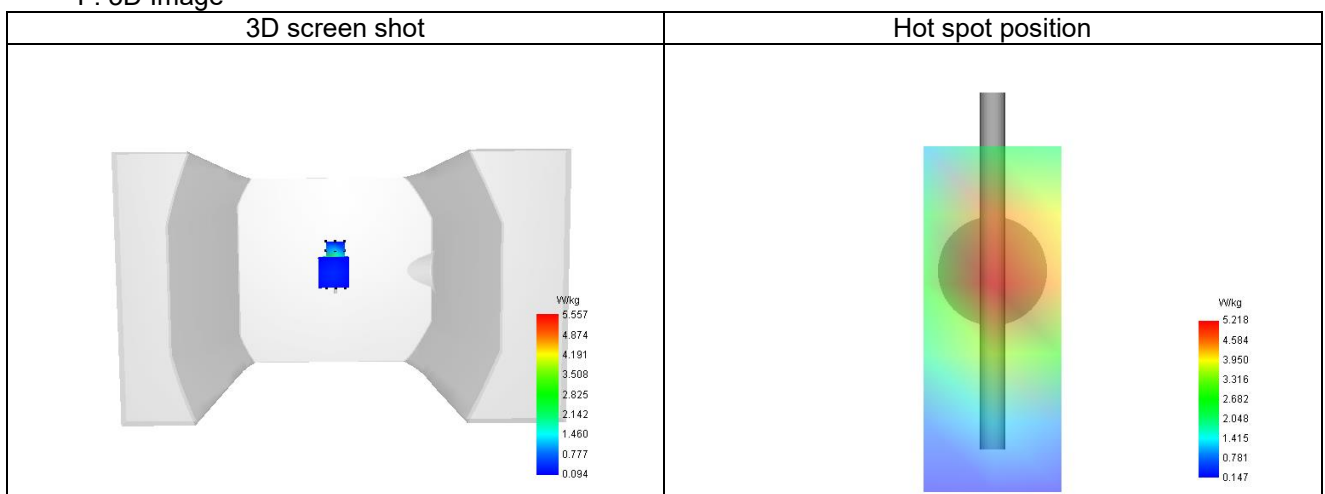
SAR 10g (W/Kg)	2.457
SAR 1g (W/Kg)	5.085
Variation (%)	0.360
Horizontal validation criteria: minimum distance (mm)	0.000000
Vertical validation criteria: SAR ratio M2/M1 (%)	0.000000

E. Z Axis Scan

Z (mm)	0.00	4.00	9.00	14.00	19.00
SAR (W/Kg)	9.121	5.557	2.866	1.459	0.770



F. 3D Image



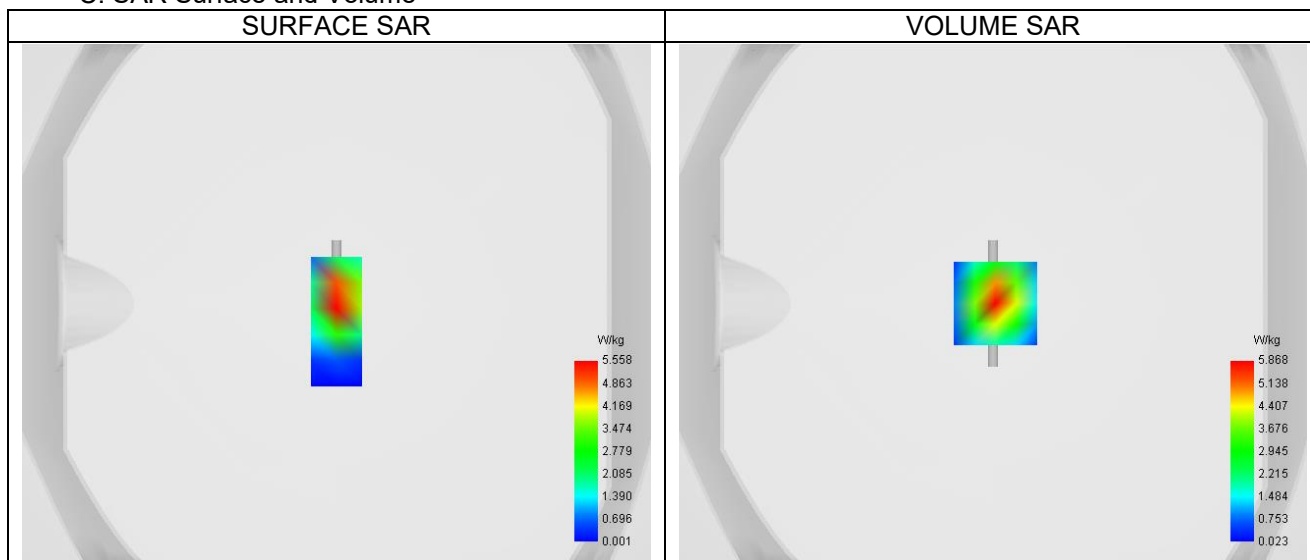
A. Experimental conditions.

Probe	SN EPG0362
ConvF	27.77
Area Scan	dx=10mm dy=10mm, Adaptive 2 max
Zoom Scan	5x5x7, dx=8mm dy=8mm dz=5mm, Very fast
Phantom	Validation plane
Device Position	Dipole
Band	CW2600
Channels	Middle
Signal	CW (Crest factor: 1.0)

B. Permittivity

Frequency (MHz)	2600.000
Relative permittivity (real part)	52.509
Relative permittivity (imaginary part)	14.889
Conductivity (S/m)	2.151

C. SAR Surface and Volume



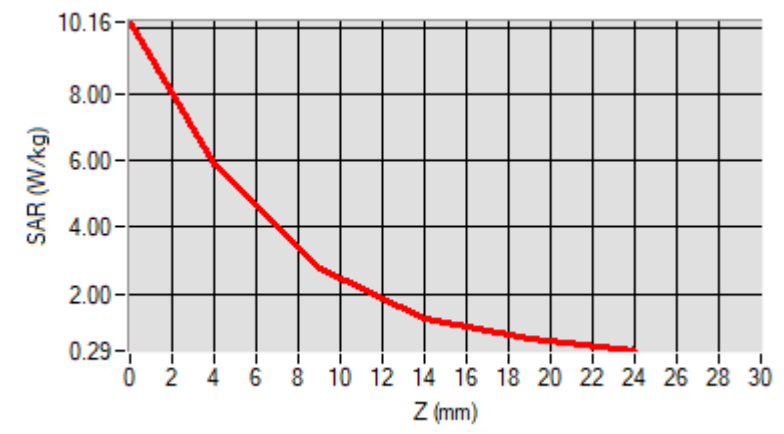
Maximum location: X=1.00, Y=0.00 ; SAR Peak: 10.19 W/kg

D. SAR 1g & 10g

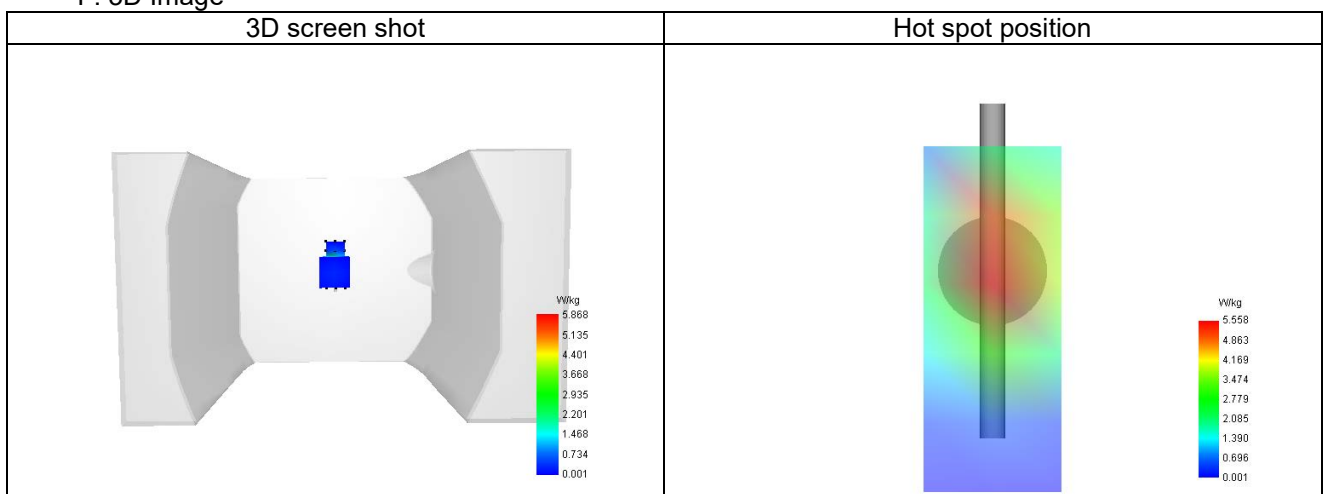
SAR 10g (W/Kg)	2.337
SAR 1g (W/Kg)	5.302
Variation (%)	0.230
Horizontal validation criteria: minimum distance (mm)	0.000000
Vertical validation criteria: SAR ratio M2/M1 (%)	0.000000

E. Z Axis Scan

Z (mm)	0.00	4.00	9.00	14.00	19.00
SAR (W/Kg)	10.164	5.868	2.777	1.281	0.618



F. 3D Image



15.2 SAR Test Graph Results

SAR plots for the highest measured SAR in each exposure configuration, wireless mode and frequency band combination according to FCC KDB 865664 D02

Plot 1

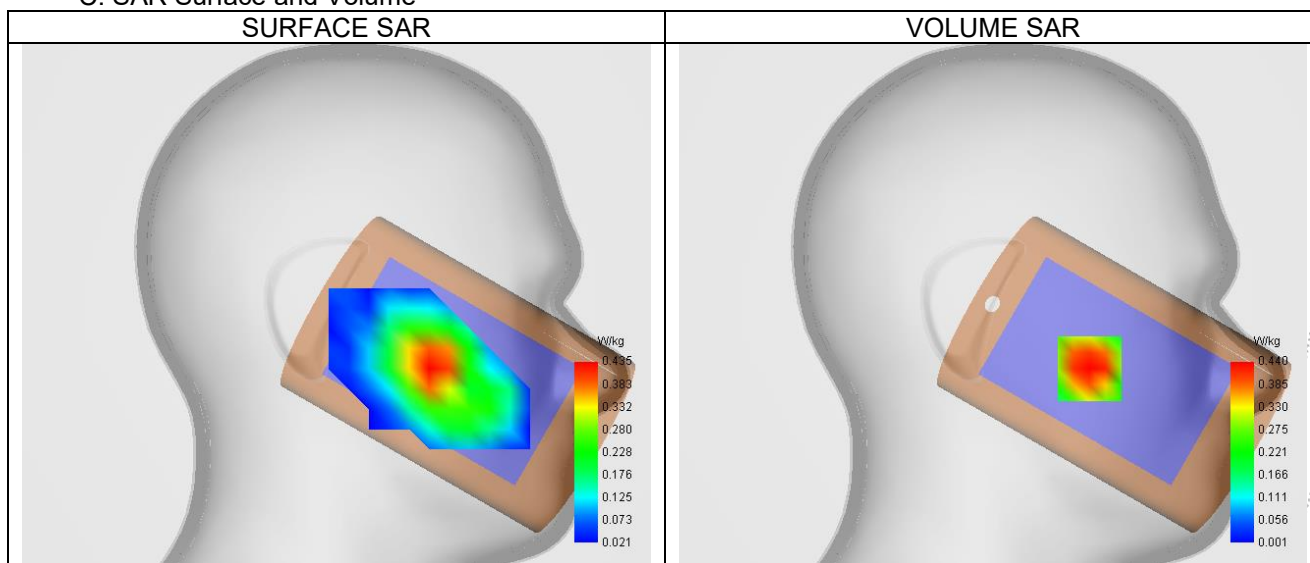
A. Experimental conditions.

Probe	SN EPG0362
ConvF	3.01
Area Scan	sam_direct_droit2_surf8mm.txt
Zoom Scan	5x5x7,dx=8mm dy=8mm dz=5mm,Complete
Phantom	Left head
Device Position	Cheek
Band	GSM850
Channels	Middle (190)
Signal	TDMA (Crest factor: 8.0)

B. Permittivity

Frequency (MHz)	836.600
Relative permittivity (real part)	41.500
Relative permittivity (imaginary part)	19.400
Conductivity (S/m)	0.902

C. SAR Surface and Volume



Maximum location: X=-48.00, Y=-32.00 ; SAR Peak: 0.59 W/kg

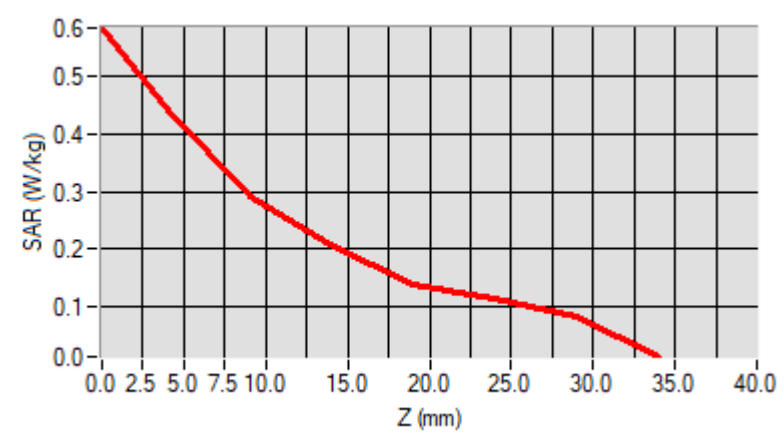
D. SAR 1g & 10g

SAR 10g (W/Kg)	0.260
SAR 1g (W/Kg)	0.412
Variation (%)	-0.520
Horizontal validation criteria: minimum distance (mm)	22.627417
Vertical validation criteria: SAR ratio M2/M1 (%)	66.450096

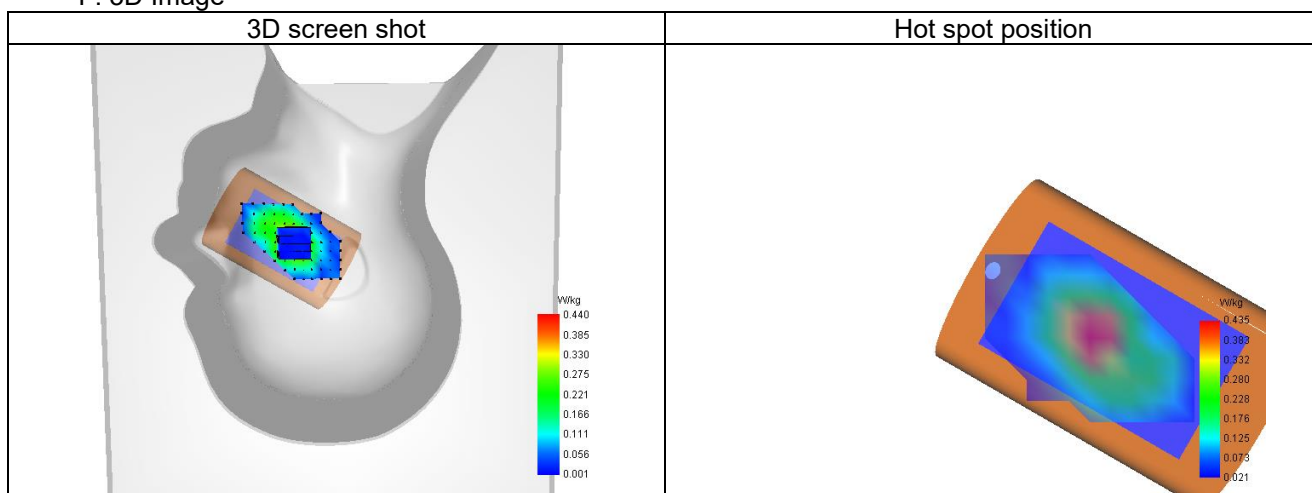
E. Z Axis Scan

Z (mm)	0.00	4.00	9.00	14.00	19.00	24.00	29.00
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SAR (W/Kg)	0.582	0.440	0.292	0.209	0.140	0.115	0.085
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F. 3D Image



Plot 2

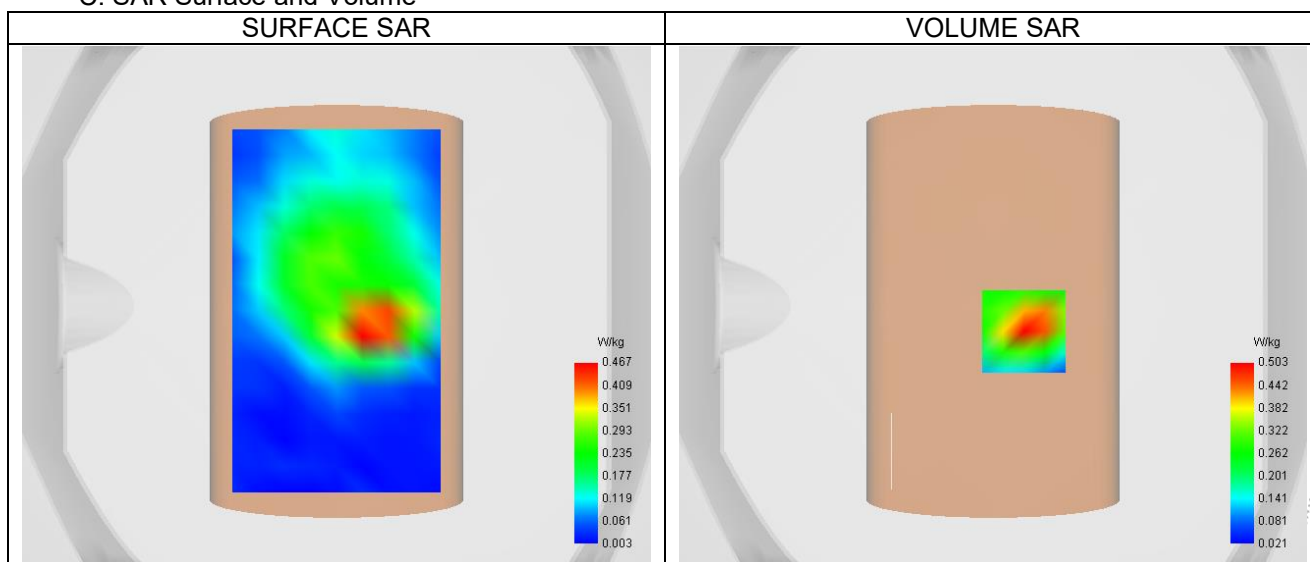
A. Experimental conditions.

Probe	SN EPG0362
ConvF	3.01
Area Scan	surf_sam_plan.txt
Zoom Scan	5x5x7,dx=8mm dy=8mm dz=5mm,Complete
Phantom	Validation plane
Device Position	Body
Band	GSM850
Channels	Middle (190)
Signal	TDMA (Crest factor: 8.0)

B. Permittivity

Frequency (MHz)	836.600
Relative permittivity (real part)	41.500
Relative permittivity (imaginary part)	19.400
Conductivity (S/m)	0.902

C. SAR Surface and Volume



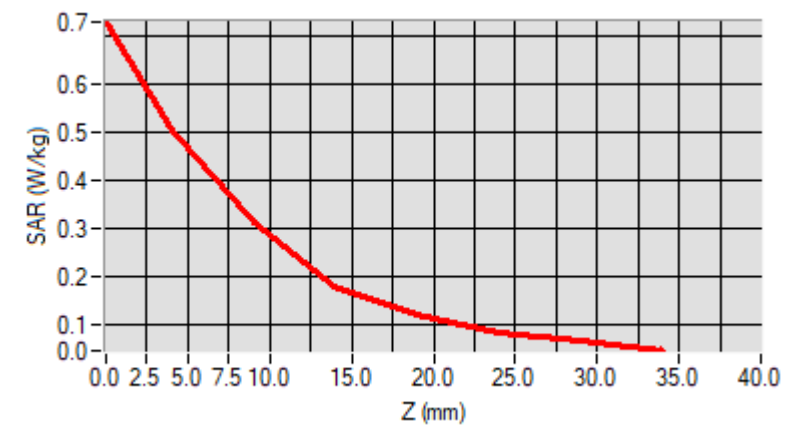
Maximum location: X=12.00, Y=-10.00 ; SAR Peak: 0.74 W/kg

D. SAR 1g & 10g

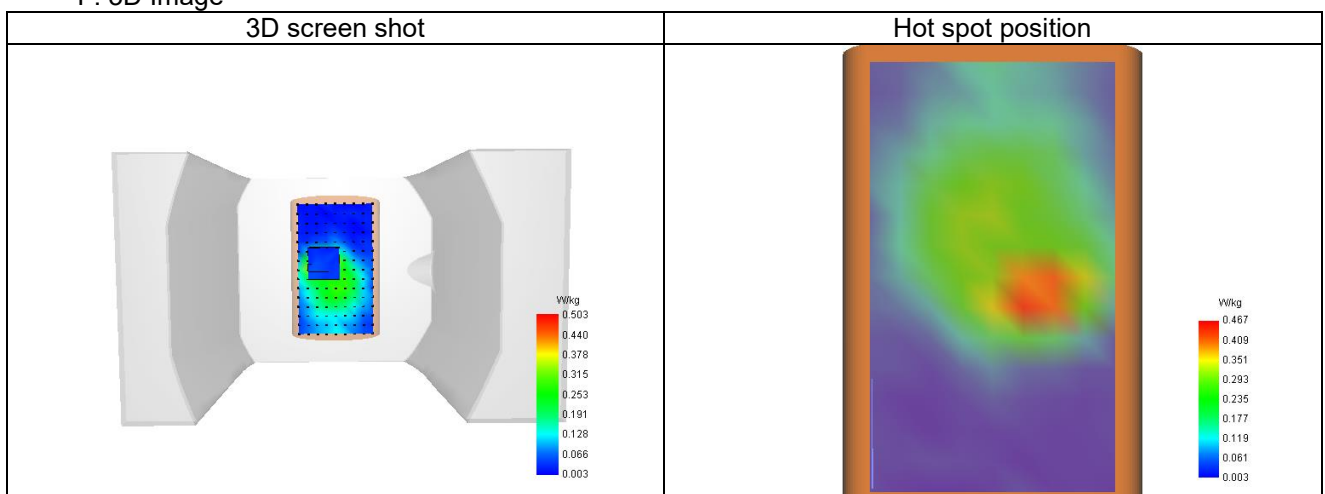
SAR 10g (W/Kg)	0.256
SAR 1g (W/Kg)	0.467
Variation (%)	-2.280
Horizontal validation criteria: minimum distance (mm)	16.000000
Vertical validation criteria: SAR ratio M2/M1 (%)	61.928421

E. Z Axis Scan

Z (mm)	0.00	4.00	9.00	14.00	19.00	24.00	29.00
SAR (W/Kg)	0.728	0.503	0.311	0.177	0.121	0.084	0.065



F. 3D Image



Plot 3

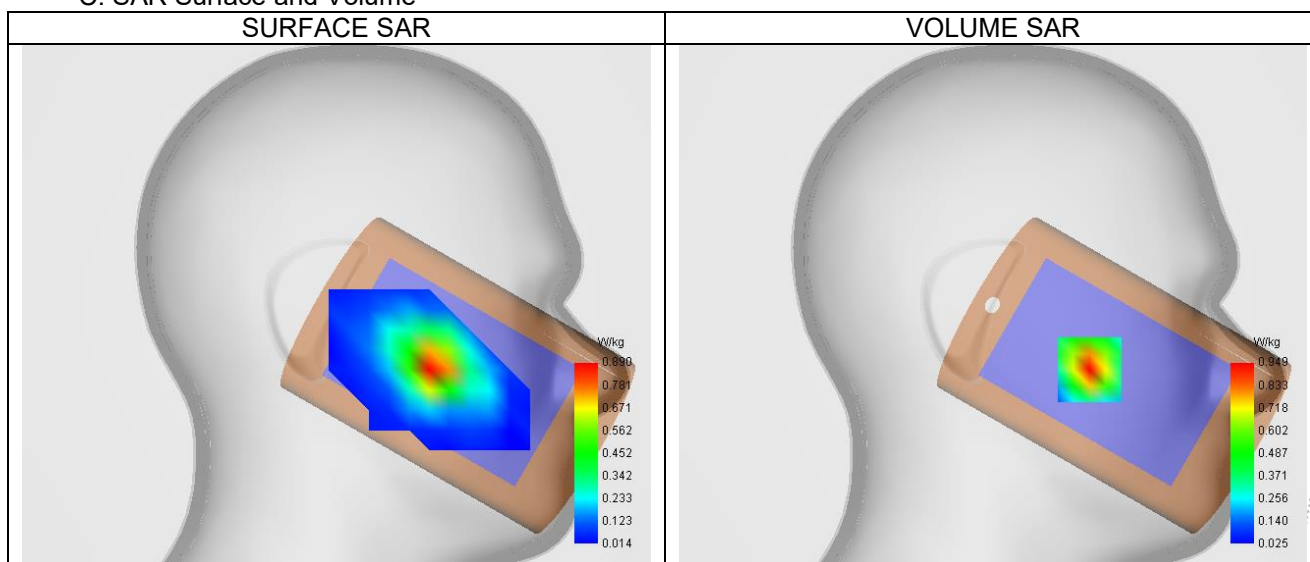
A. Experimental conditions.

Probe	SN EPGO362
ConvF	3.27
Area Scan	sam_direct_droit2_surf8mm.txt
Zoom Scan	5x5x7,dx=8mm dy=8mm dz=5mm,Complete
Phantom	Left head
Device Position	Cheek
Band	GSM1900
Channels	Low (512)
Signal	TDMA (Crest factor: 8.0)

B. Permittivity

Frequency (MHz)	1850.200
Relative permittivity (real part)	40.000
Relative permittivity (imaginary part)	13.408
Conductivity (S/m)	1.400

C. SAR Surface and Volume



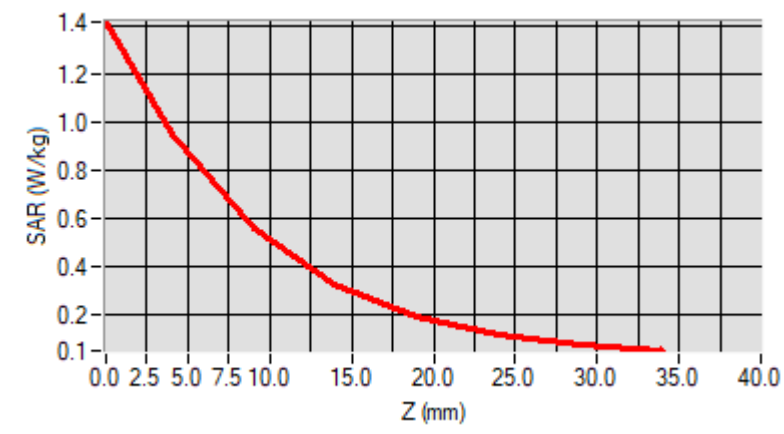
Maximum location: X=-48.00, Y=-32.00 ; SAR Peak: 1.44 W/kg

D. SAR 1g & 10g

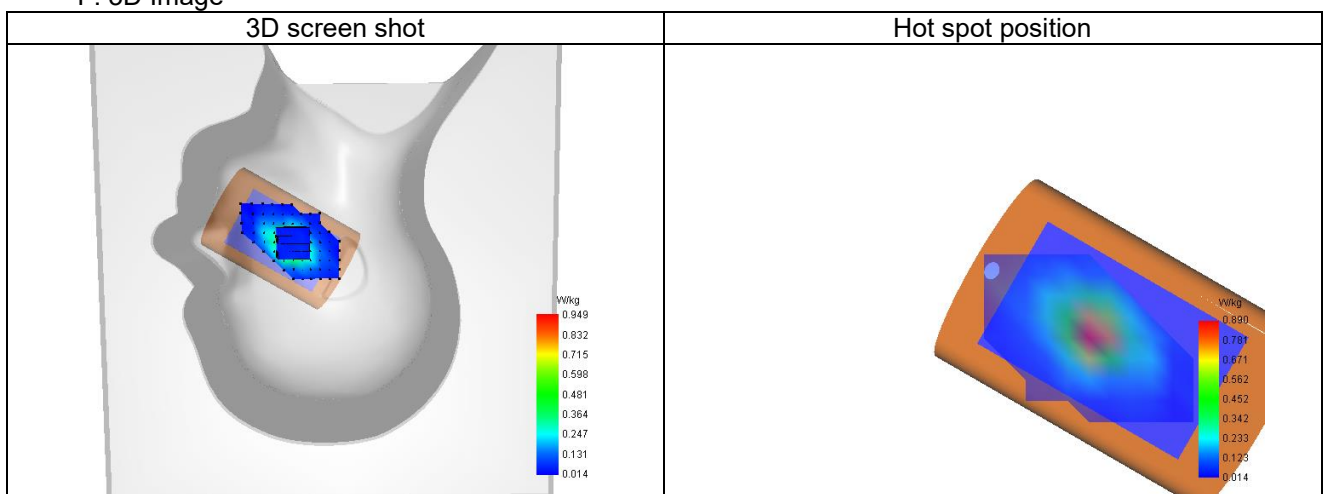
SAR 10g (W/Kg)	0.458
SAR 1g (W/Kg)	0.702
Variation (%)	4.740
Horizontal validation criteria: minimum distance (mm)	11.313708
Vertical validation criteria: SAR ratio M2/M1 (%)	59.163565

E. Z Axis Scan

Z (mm)	0.00	4.00	9.00	14.00	19.00	24.00	29.00
SAR (W/Kg)	1.400	0.929	0.541	0.325	0.196	0.125	0.081



F. 3D Image



Plot 4

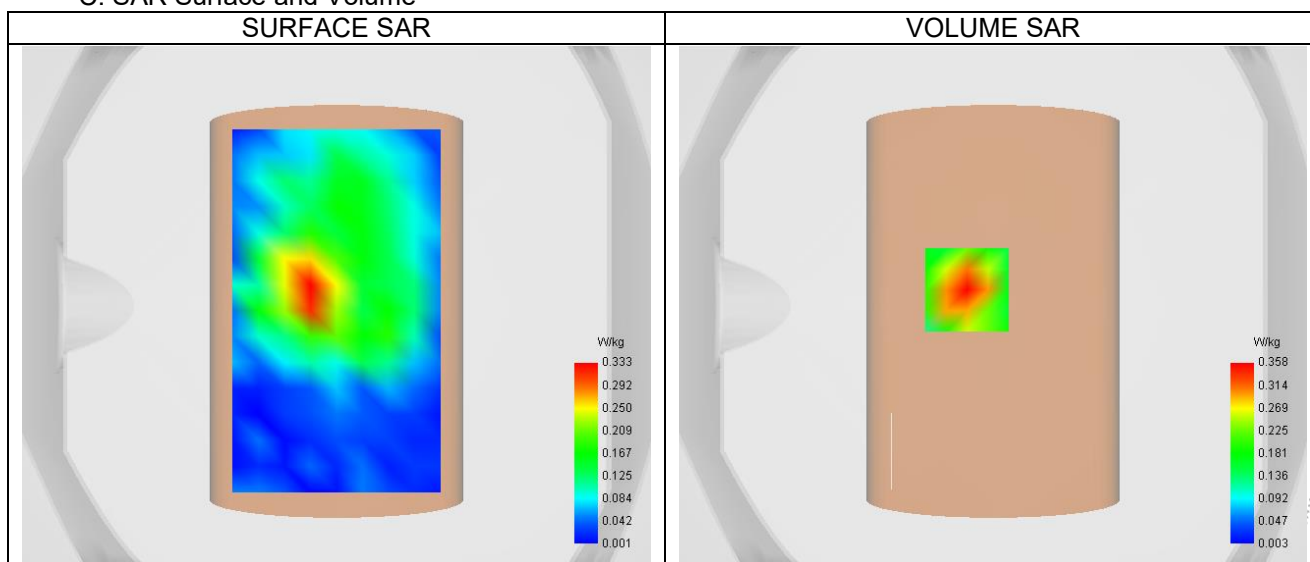
A. Experimental conditions.

Probe	SN EPG0362
ConvF	3.27
Area Scan	surf_sam_plan.txt
Zoom Scan	5x5x7,dx=8mm dy=8mm dz=5mm,Complete
Phantom	Validation plane
Device Position	Body
Band	GSM1900
Channels	Low (512)
Signal	TDMA (Crest factor: 8.0)

B. Permittivity

Frequency (MHz)	1880.000
Relative permittivity (real part)	40.000
Relative permittivity (imaginary part)	13.408
Conductivity (S/m)	1.400

C. SAR Surface and Volume

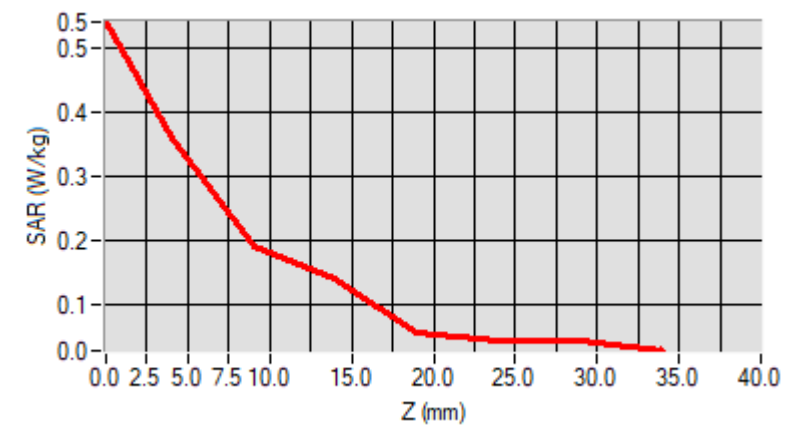


D. SAR 1g & 10g

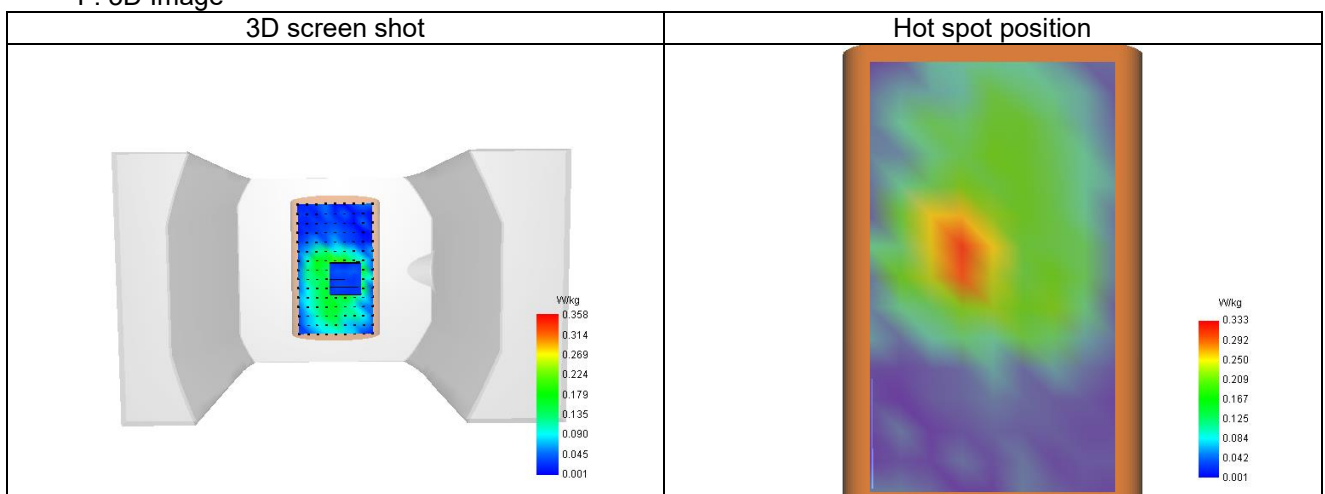
SAR 10g (W/Kg)	0.179
SAR 1g (W/Kg)	0.340
Variation (%)	-2.530
Horizontal validation criteria: minimum distance (mm)	16.000000
Vertical validation criteria: SAR ratio M2/M1 (%)	52.920436

E. Z Axis Scan

Z (mm)	0.00	4.00	9.00	14.00	19.00	24.00	29.00
SAR (W/Kg)	0.539	0.358	0.190	0.140	0.058	0.044	0.045



F. 3D Image



Plot 5

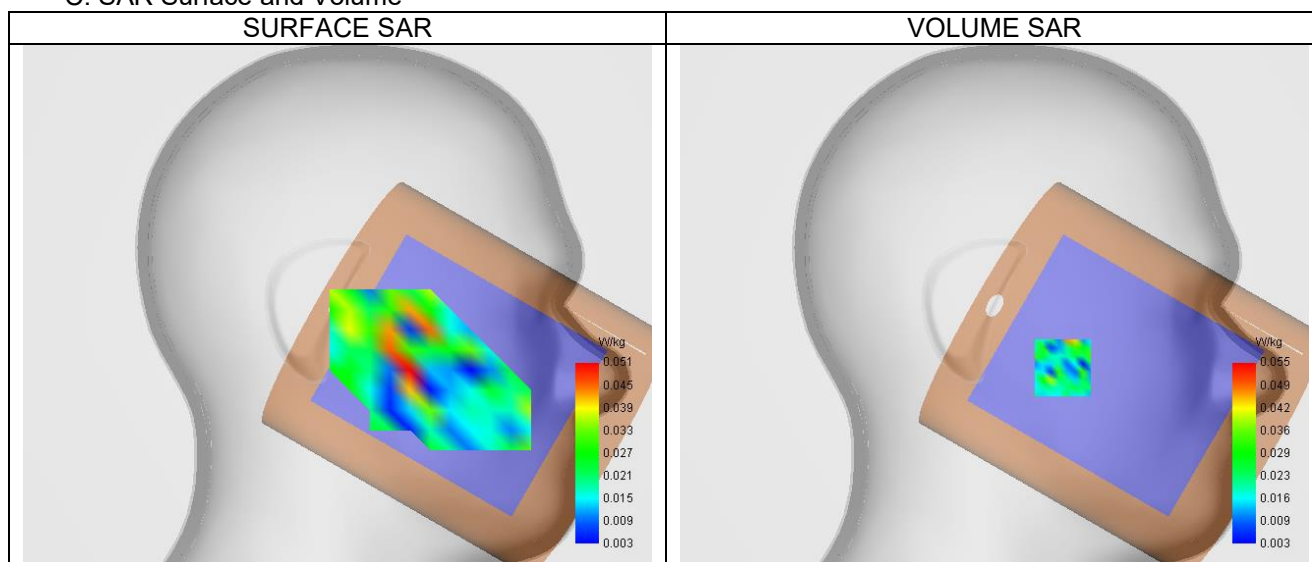
A. Experimental conditions.

Probe	SN EPG0362
ConvF	3.96
Area Scan	sam_direct_droit2_surf8mm.txt
Zoom Scan	8x8x7,dx=4mm dy=4mm dz=5mm,Complete
Phantom	Left head
Device Position	Cheek
Band	Band2_WCDMA1900
Channels	Middle (9400)
Signal	WCDMA (Crest factor: 1.0)

B. Permittivity

Frequency (MHz)	1880.000	
Relative permittivity (real part)	40.000	
Relative permittivity (imaginary part)	13.408	
Conductivity (S/m)	1.400	

C. SAR Surface and Volume



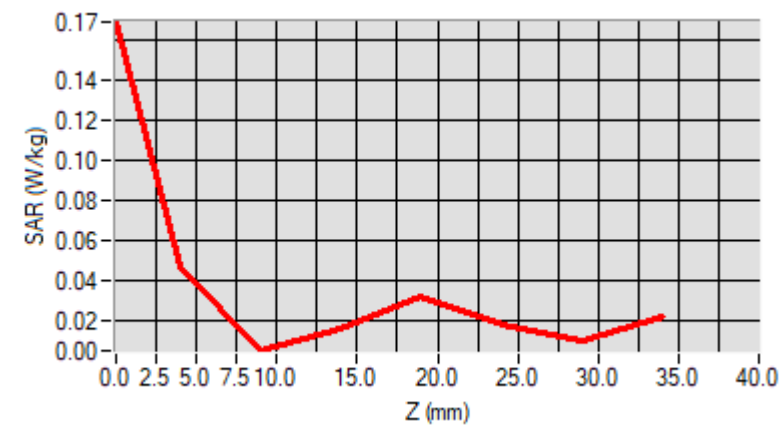
Maximum location: X=-36.00, Y=-33.00 ; SAR Peak: 0.13 W/kg

D. SAR 1g & 10g

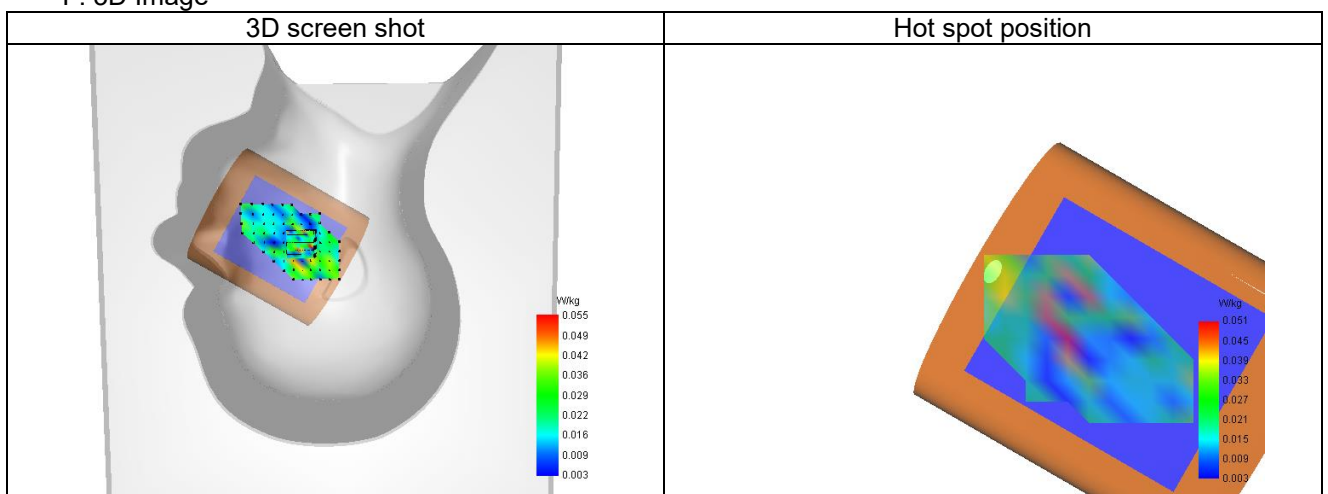
SAR 10g (W/Kg)	0.022
SAR 1g (W/Kg)	0.025
Variation (%)	-4.890
Horizontal validation criteria: minimum distance (mm)	4.000000
Vertical validation criteria: SAR ratio M2/M1 (%)	28.559924

E. Z Axis Scan

Z (mm)	0.00	4.00	9.00	14.00	19.00	24.00	29.00
SAR (W/Kg)	0.169	0.047	0.005	0.016	0.032	0.017	0.010



F. 3D Image



Plot 6

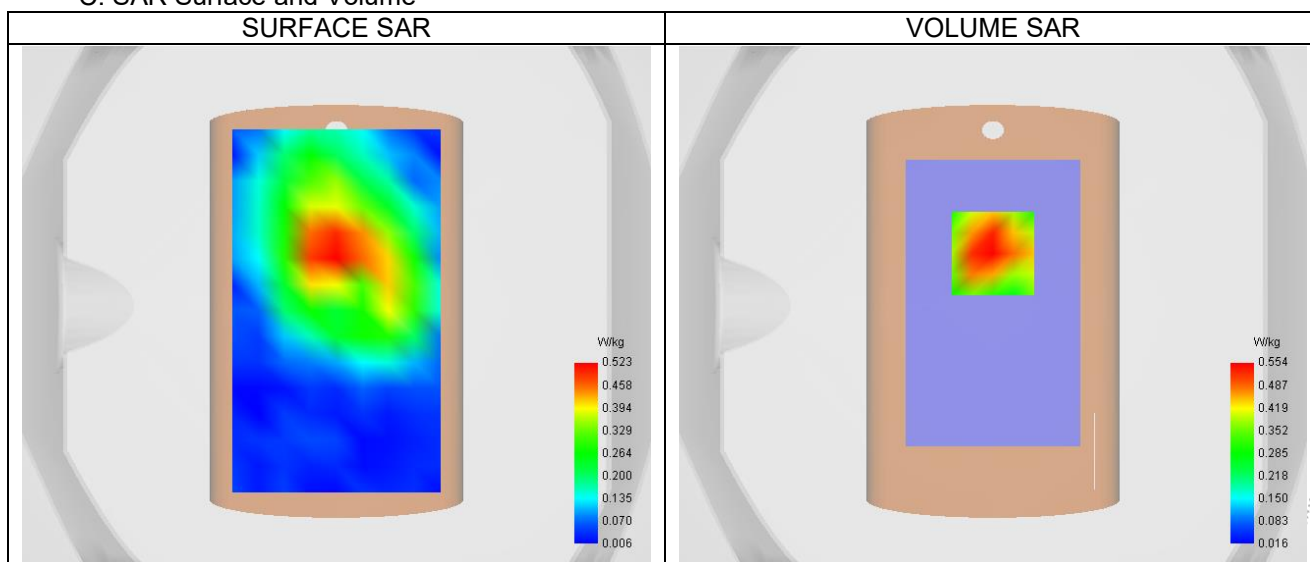
A. Experimental conditions.

Probe	SN EPG0362
ConvF	3.27
Area Scan	surf_sam_plan.txt
Zoom Scan	5x5x7,dx=8mm dy=8mm dz=5mm,Complete
Phantom	Validation plane
Device Position	Body
Band	Band2_WCDMA1900
Channels	Middle (9400)
Signal	WCDMA (Crest factor: 1.0)

B. Permittivity

Frequency (MHz)	1880.000
Relative permittivity (real part)	40.000
Relative permittivity (imaginary part)	13.408
Conductivity (S/m)	1.400

C. SAR Surface and Volume

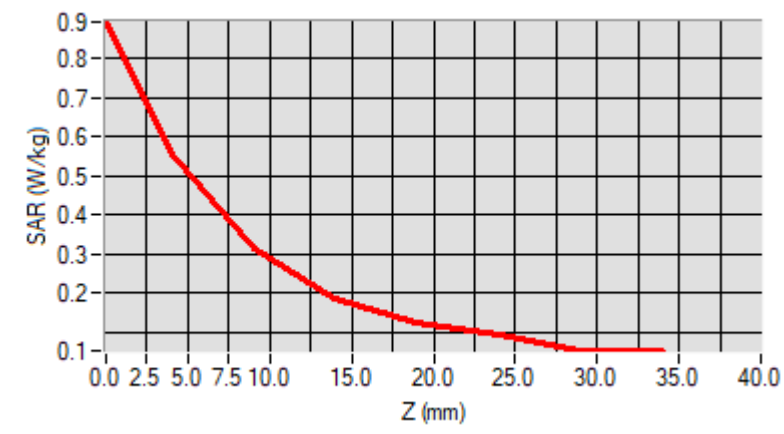


D. SAR 1g & 10g

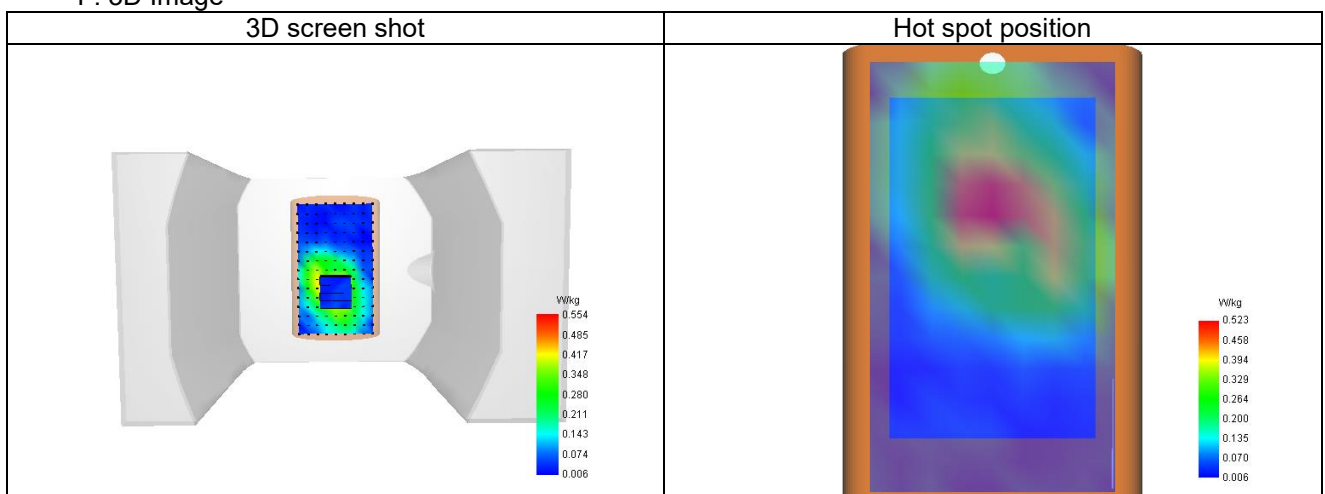
SAR 10g (W/Kg)	0.307
SAR 1g (W/Kg)	0.541
Variation (%)	-4.790
Horizontal validation criteria: minimum distance (mm)	17.888544
Vertical validation criteria: SAR ratio M2/M1 (%)	57.013387

E. Z Axis Scan

Z (mm)	0.00	4.00	9.00	14.00	19.00	24.00	29.00
SAR (W/Kg)	0.895	0.554	0.316	0.187	0.126	0.095	0.053



F. 3D Image



Plot 7

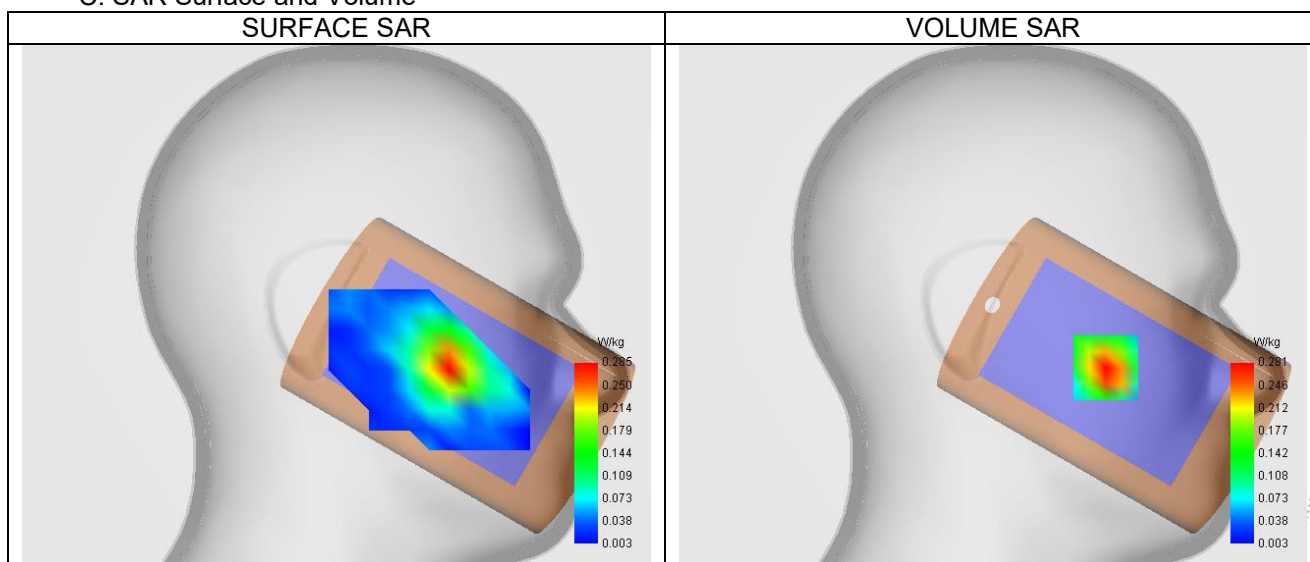
A. Experimental conditions.

Probe	SN EPGO362
ConvF	3.35
Area Scan	sam_direct_droit2_surf8mm.txt
Zoom Scan	5x5x7,dx=8mm dy=8mm dz=5mm,Complete
Phantom	Left head
Device Position	Cheek
Band	Band4_WCDMA1700
Channels	Middle (1450)
Signal	WCDMA (Crest factor: 1.0)

B. Permittivity

Frequency (MHz)	1732.400
Relative permittivity (real part)	40.116
Relative permittivity (imaginary part)	14.136
Conductivity (S/m)	1.361

C. SAR Surface and Volume



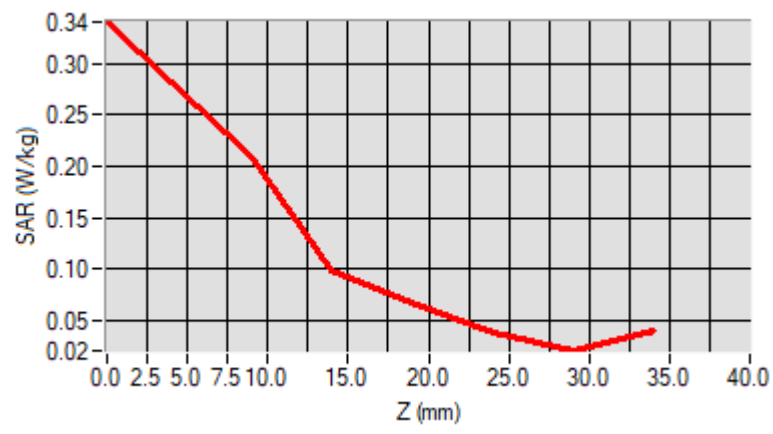
Maximum location: X=-56.00, Y=-31.00 ; SAR Peak: 0.48 W/kg

D. SAR 1g & 10g

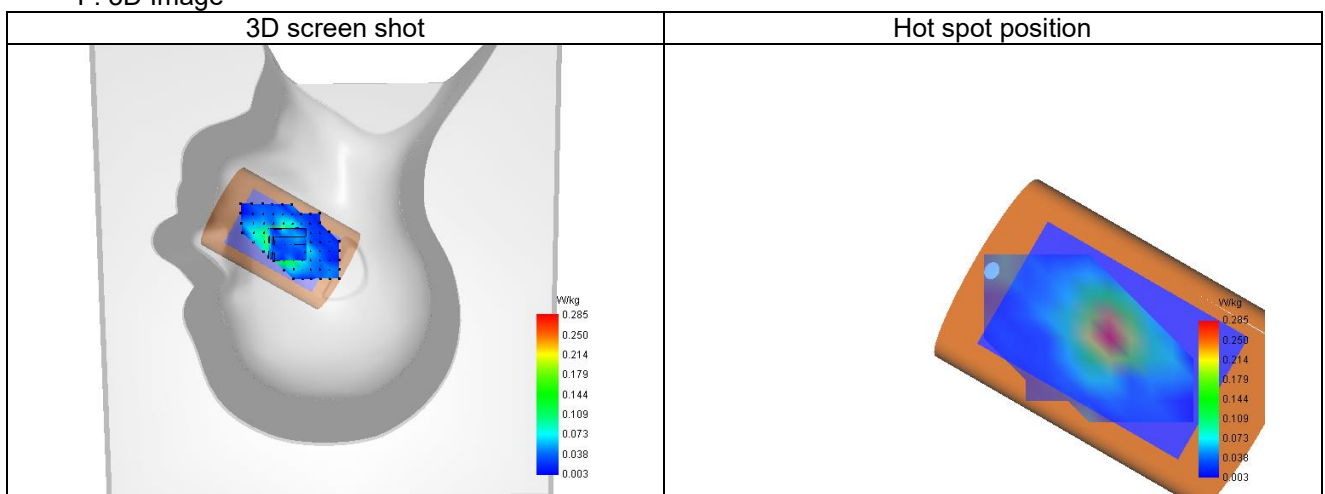
SAR 10g (W/Kg)	0.146
SAR 1g (W/Kg)	0.279
Variation (%)	4.560
Horizontal validation criteria: minimum distance (mm)	16.000000
Vertical validation criteria: SAR ratio M2/M1 (%)	74.622726

E. Z Axis Scan

Z (mm)	0.00	4.00	9.00	14.00	19.00	24.00	29.00
SAR (W/Kg)	0.340	0.281	0.210	0.099	0.067	0.039	0.021



F. 3D Image



Plot 8

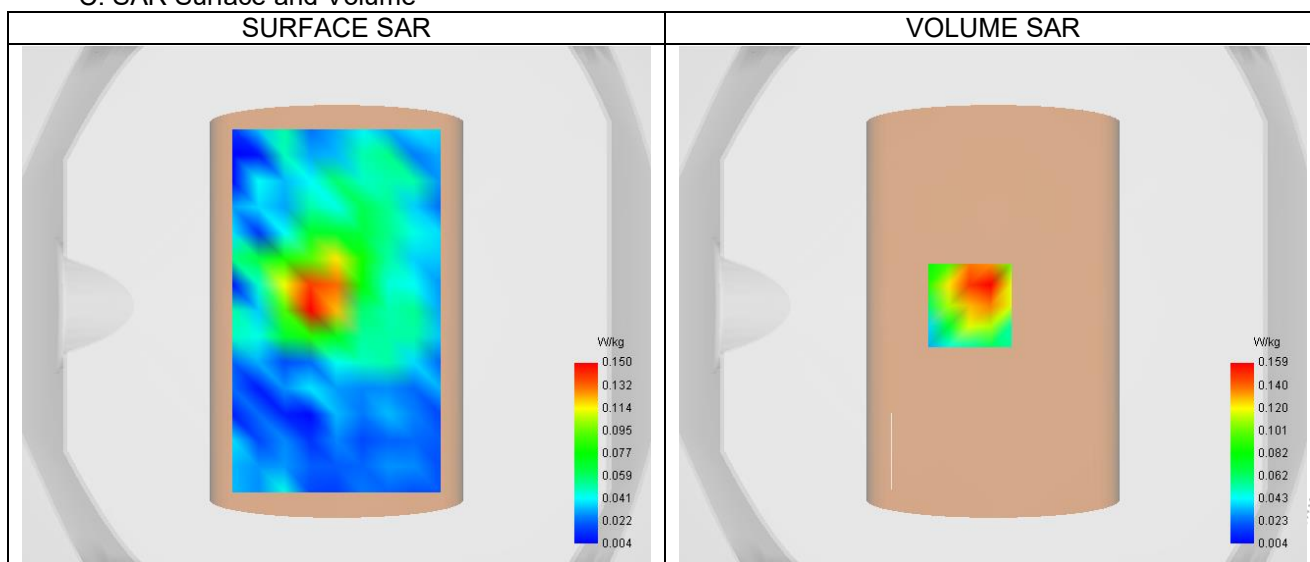
A. Experimental conditions.

Probe	SN EPG0362
ConvF	3.35
Area Scan	surf_sam_plan.txt
Zoom Scan	5x5x7,dx=8mm dy=8mm dz=5mm,Complete
Phantom	Validation plane
Device Position	Body
Band	Band4_WCDMA1700
Channels	Middle (1450)
Signal	WCDMA (Crest factor: 1.0)

B. Permittivity

Frequency (MHz)	1732.400
Relative permittivity (real part)	40.116
Relative permittivity (imaginary part)	14.136
Conductivity (S/m)	1.361

C. SAR Surface and Volume



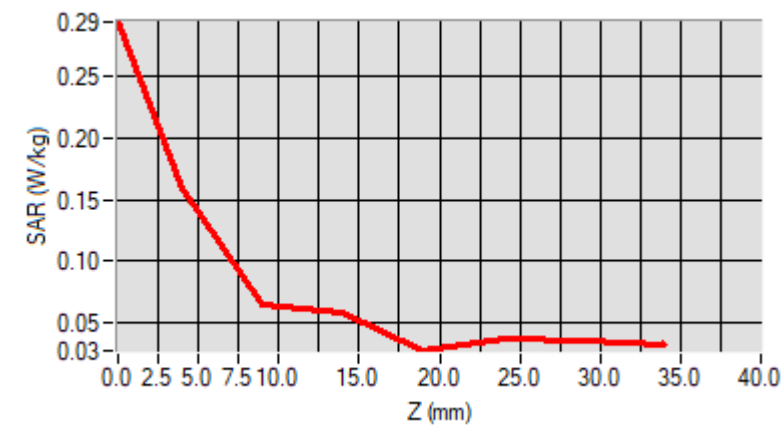
Maximum location: X=-9.00, Y=0.00 ; SAR Peak: 0.28 W/kg

D. SAR 1g & 10g

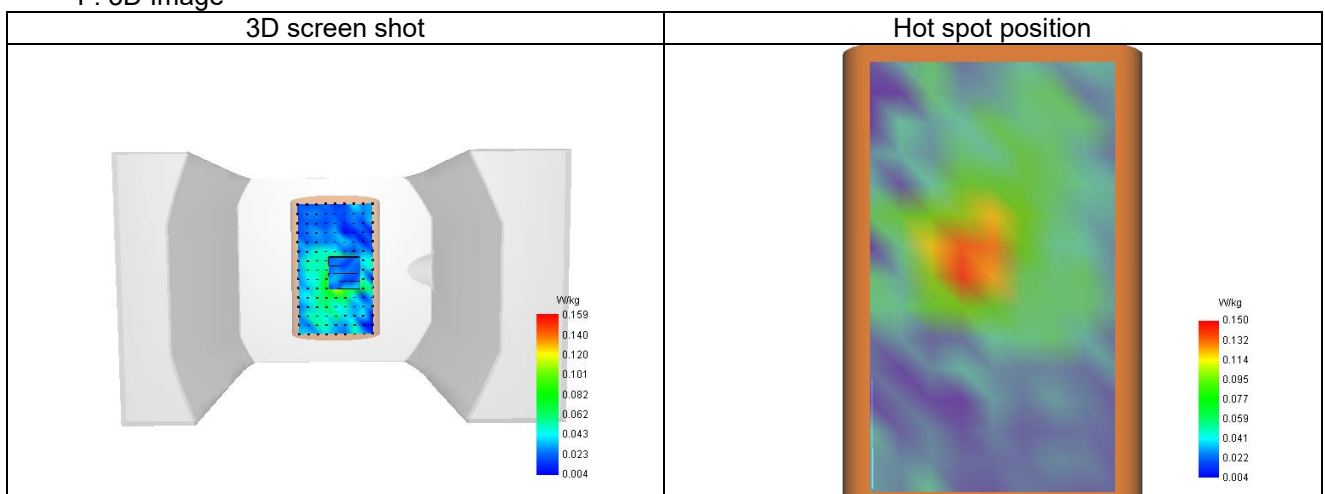
SAR 10g (W/Kg)	0.086
SAR 1g (W/Kg)	0.153
Variation (%)	3.240
Horizontal validation criteria: minimum distance (mm)	11.313708
Vertical validation criteria: SAR ratio M2/M1 (%)	55.398561

E. Z Axis Scan

Z (mm)	0.00	4.00	9.00	14.00	19.00	24.00	29.00
SAR (W/Kg)	0.294	0.159	0.064	0.058	0.027	0.037	0.035



F. 3D Image



Plot 9

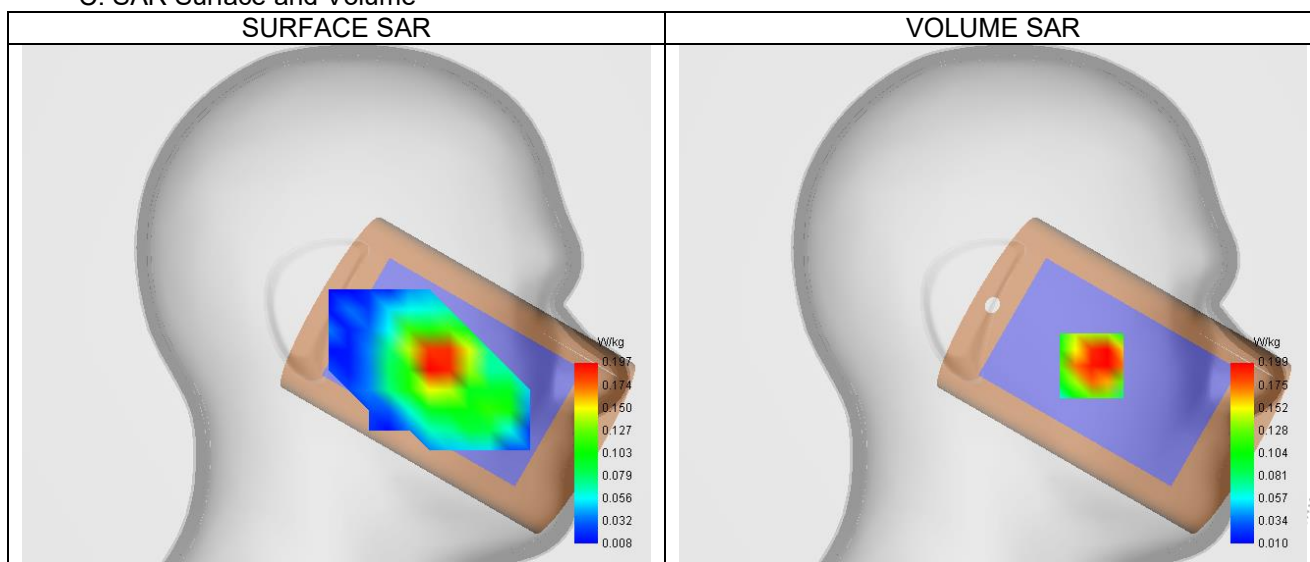
A. Experimental conditions.

Probe	SN EPGO362
ConvF	3.01
Area Scan	sam_direct_droit2_surf8mm.txt
Zoom Scan	5x5x7,dx=8mm dy=8mm dz=5mm,Complete
Phantom	Left head
Device Position	Cheek
Band	Band5_WCDMA850
Channels	Low (4132)
Signal	WCDMA (Crest factor: 1.0)

B. Permittivity

Frequency (MHz)	826.400
Relative permittivity (real part)	42.285
Relative permittivity (imaginary part)	20.226
Conductivity (S/m)	0.940

C. SAR Surface and Volume



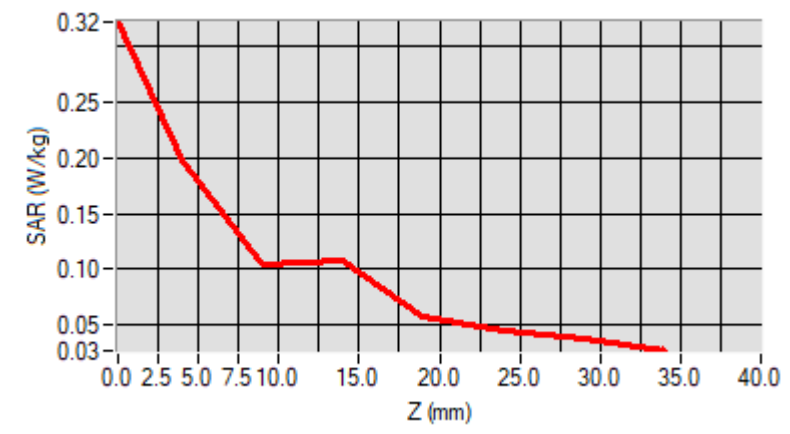
Maximum location: X=-49.00, Y=-30.00 ; SAR Peak: 0.30 W/kg

D. SAR 1g & 10g

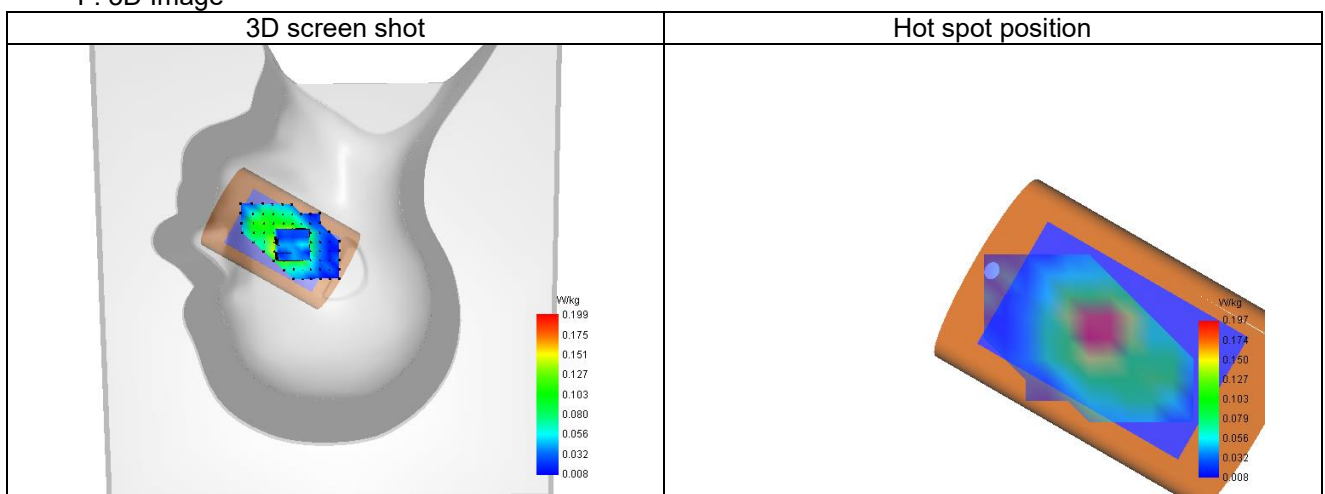
SAR 10g (W/Kg)	0.128
SAR 1g (W/Kg)	0.202
Variation (%)	1.940
Horizontal validation criteria: minimum distance (mm)	11.313708
Vertical validation criteria: SAR ratio M2/M1 (%)	76.254015

E. Z Axis Scan

Z (mm)	0.00	4.00	9.00	14.00	19.00	24.00	29.00
SAR (W/Kg)	0.323	0.199	0.103	0.108	0.056	0.044	0.037



F. 3D Image



Plot 10

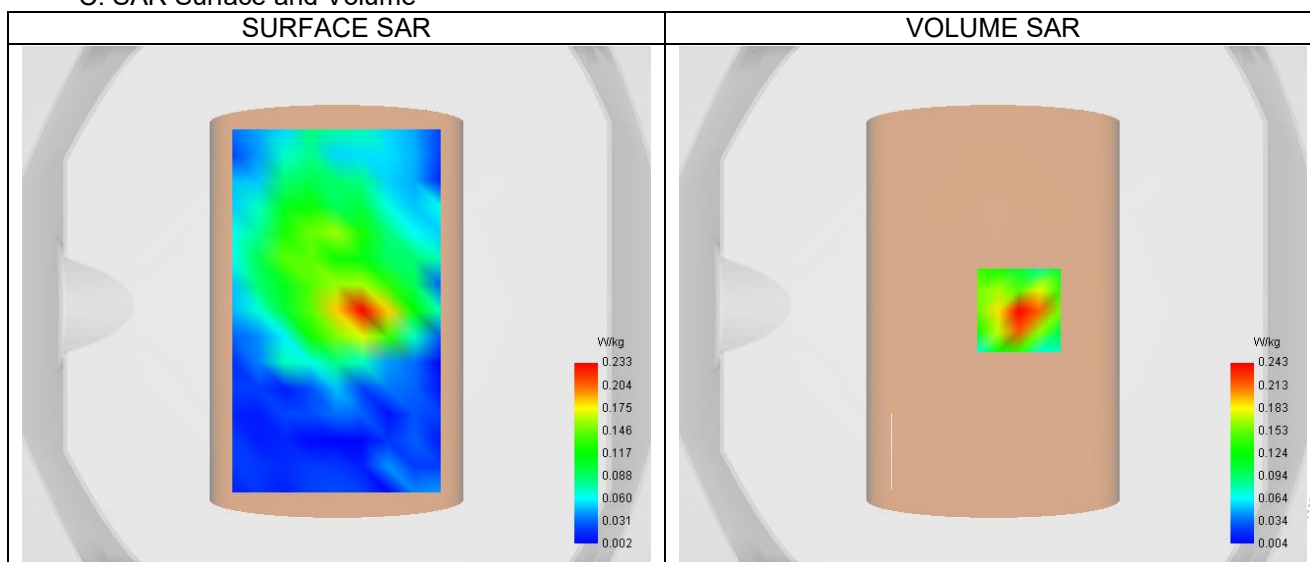
A. Experimental conditions.

Probe	SN EPG0362
ConvF	3.01
Area Scan	surf_sam_plan.txt
Zoom Scan	5x5x7,dx=8mm dy=8mm dz=5mm,Complete
Phantom	Validation plane
Device Position	Body
Band	Band5_WCDMA850
Channels	Middle (4132)
Signal	WCDMA (Crest factor: 1.0)

B. Permittivity

Frequency (MHz)	826.400
Relative permittivity (real part)	42.285
Relative permittivity (imaginary part)	20.226
Conductivity (S/m)	0.940

C. SAR Surface and Volume

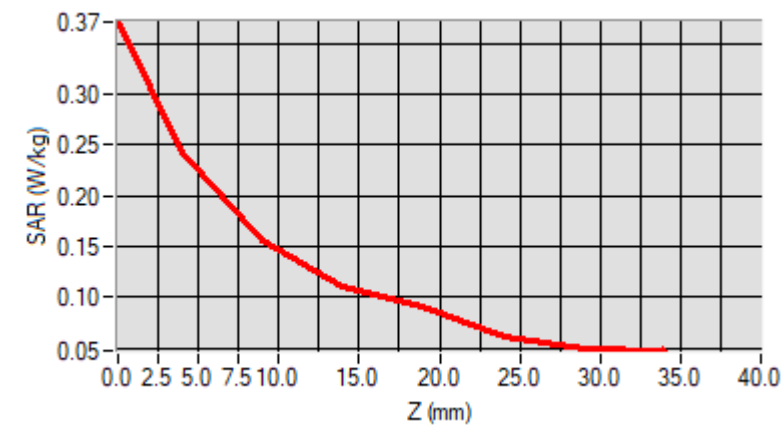


D. SAR 1g & 10g

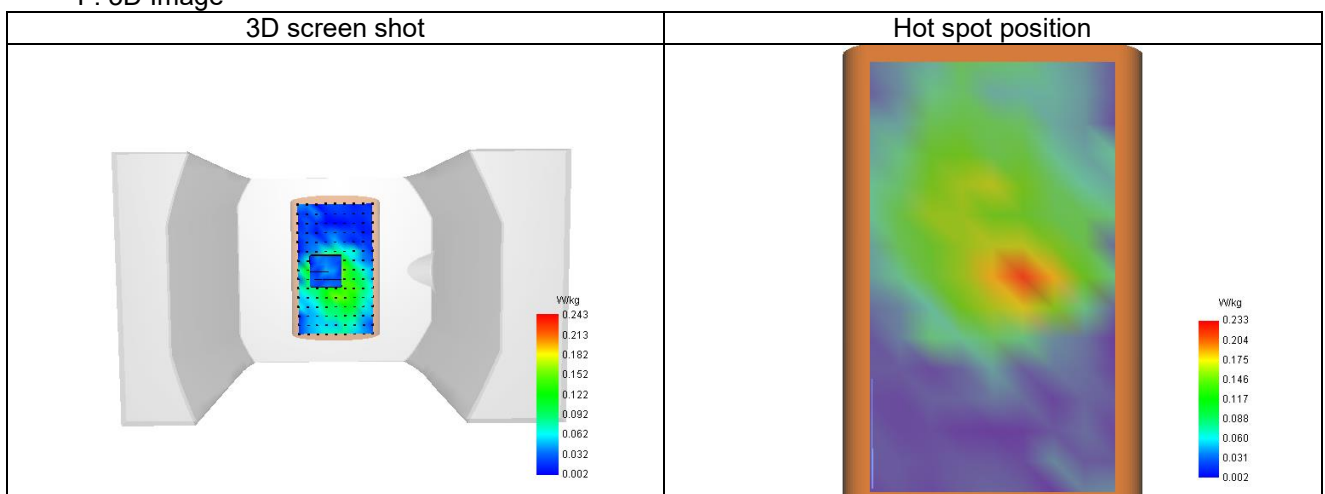
SAR 10g (W/Kg)	0.131
SAR 1g (W/Kg)	0.239
Variation (%)	-0.720
Horizontal validation criteria: minimum distance (mm)	16.000000
Vertical validation criteria: SAR ratio M2/M1 (%)	64.285317

E. Z Axis Scan

Z (mm)	0.00	4.00	9.00	14.00	19.00	24.00	29.00
SAR (W/Kg)	0.371	0.243	0.156	0.111	0.091	0.061	0.049



F. 3D Image



Plot 11

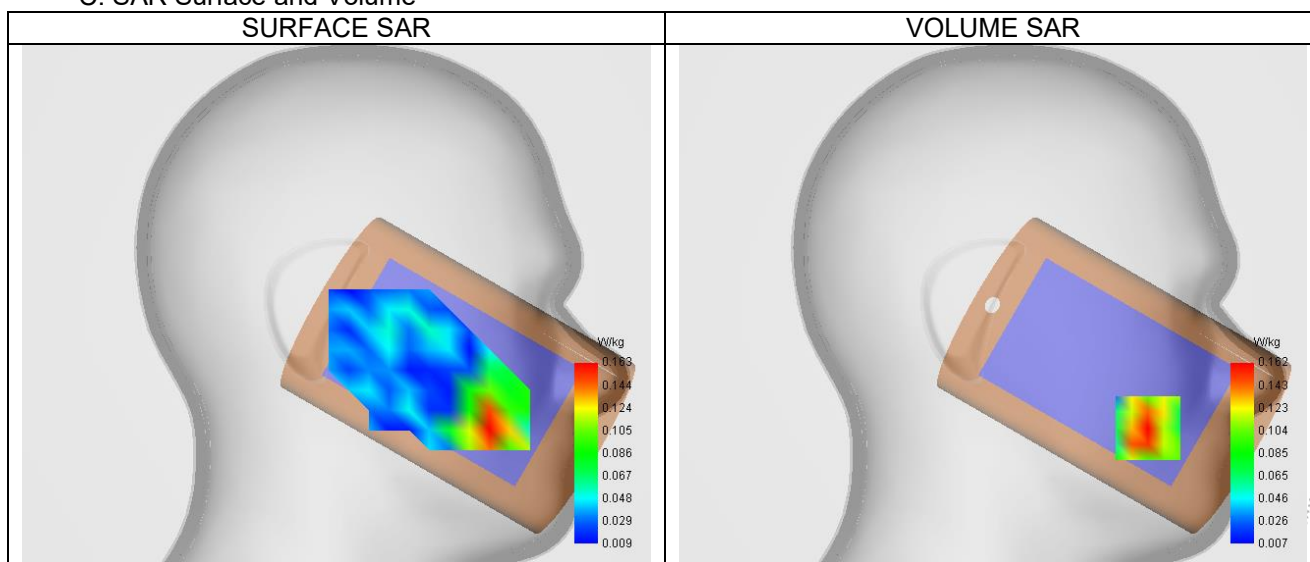
A. Experimental conditions.

Probe	SN EPGO362
ConvF	3.27
Area Scan	sam_direct_droit2_surf8mm.txt
Zoom Scan	5x5x7,dx=8mm dy=8mm dz=5mm,Complete
Phantom	Left head
Device Position	Cheek
Band	LTE band 2
Channels	Middle (18900)
Signal	LTE (Crest factor: 1.0)

B. Permittivity

Frequency (MHz)	1880.000
Relative permittivity (real part)	40.000
Relative permittivity (imaginary part)	13.408
Conductivity (S/m)	1.400

C. SAR Surface and Volume



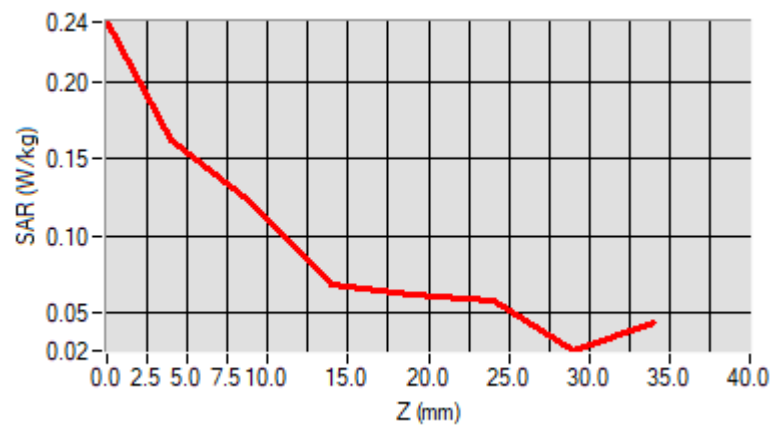
Maximum location: X=-77.00, Y=-61.00 ; SAR Peak: 0.28 W/kg

D. SAR 1g & 10g

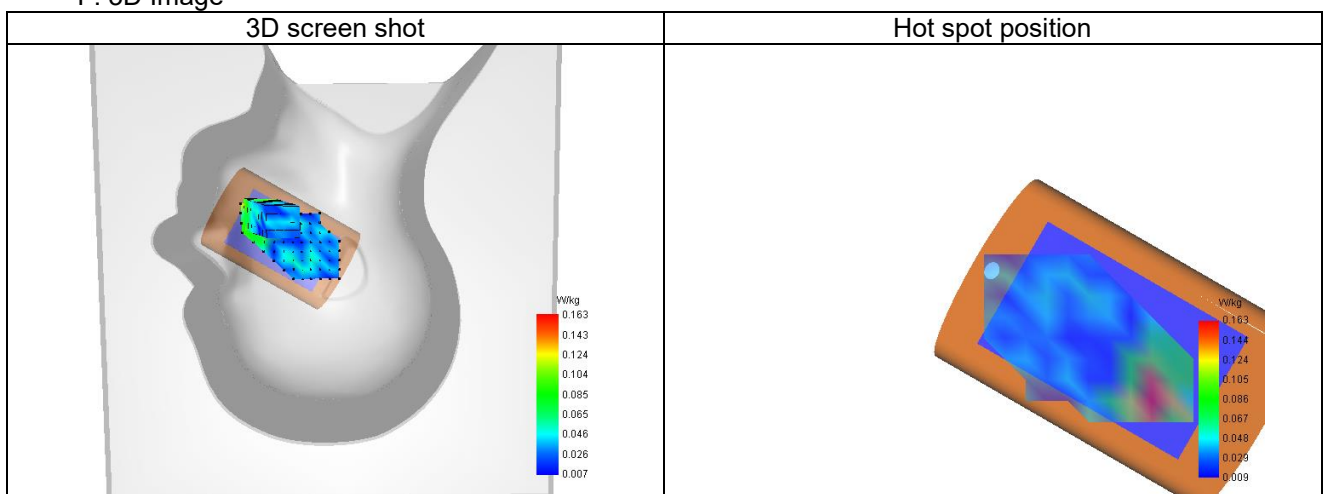
SAR 10g (W/Kg)	0.097
SAR 1g (W/Kg)	0.165
Variation (%)	2.470
Horizontal validation criteria: minimum distance (mm)	16.000000
Vertical validation criteria: SAR ratio M2/M1 (%)	74.892705

E. Z Axis Scan

Z (mm)	0.00	4.00	9.00	14.00	19.00	24.00	29.00
SAR (W/Kg)	0.239	0.162	0.122	0.068	0.062	0.057	0.025



F. 3D Image



Plot 12

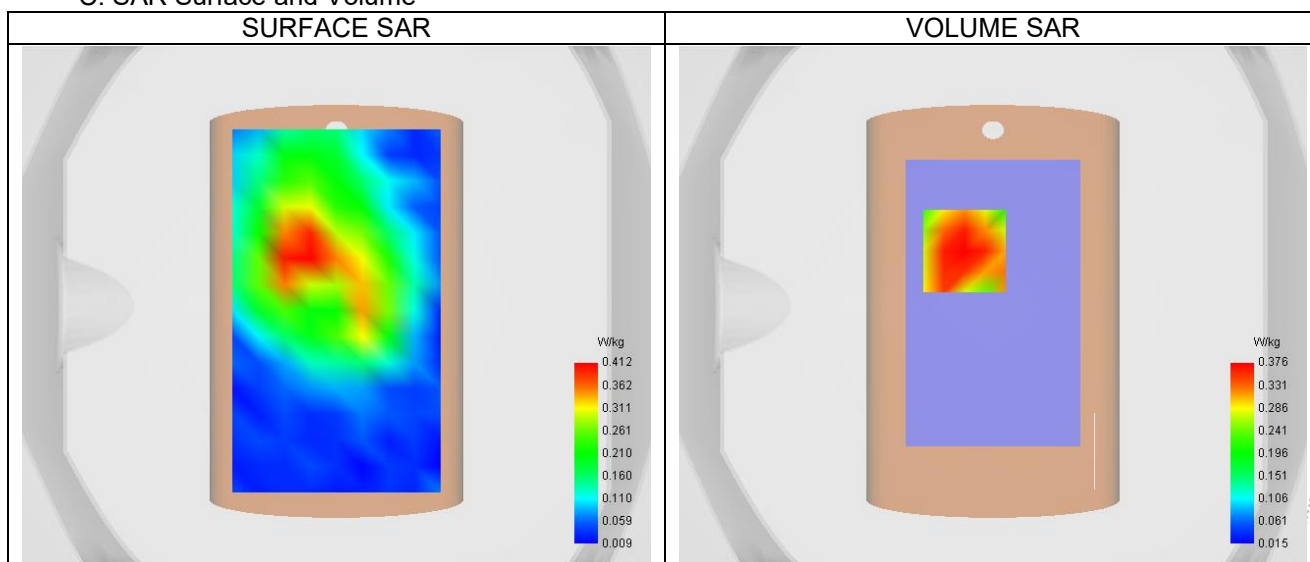
A. Experimental conditions.

Probe	SN EPG0362
ConvF	3.27
Area Scan	surf_sam_plan.txt
Zoom Scan	5x5x7,dx=8mm dy=8mm dz=5mm,Complete
Phantom	Validation plane
Device Position	Body
Band	LTE band 2
Channels	Middle (18900)
Signal	LTE (Crest factor: 1.0)

B. Permittivity

Frequency (MHz)	1880.000
Relative permittivity (real part)	40.000
Relative permittivity (imaginary part)	13.408
Conductivity (S/m)	1.400

C. SAR Surface and Volume



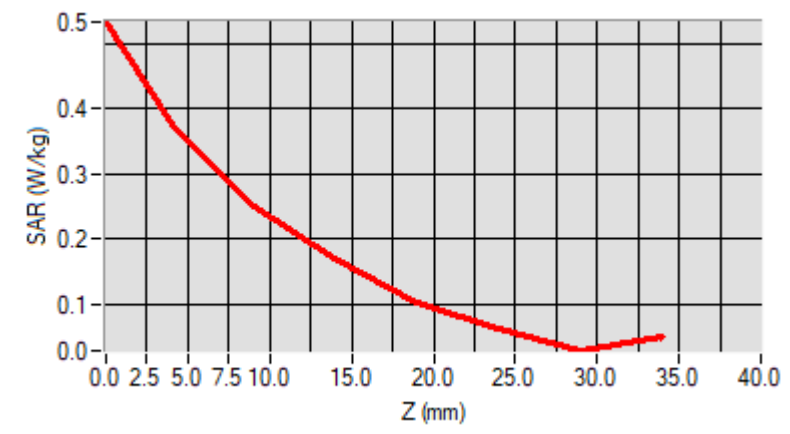
Maximum location: X=-11.00, Y=21.00 ; SAR Peak: 0.59 W/kg

D. SAR 1g & 10g

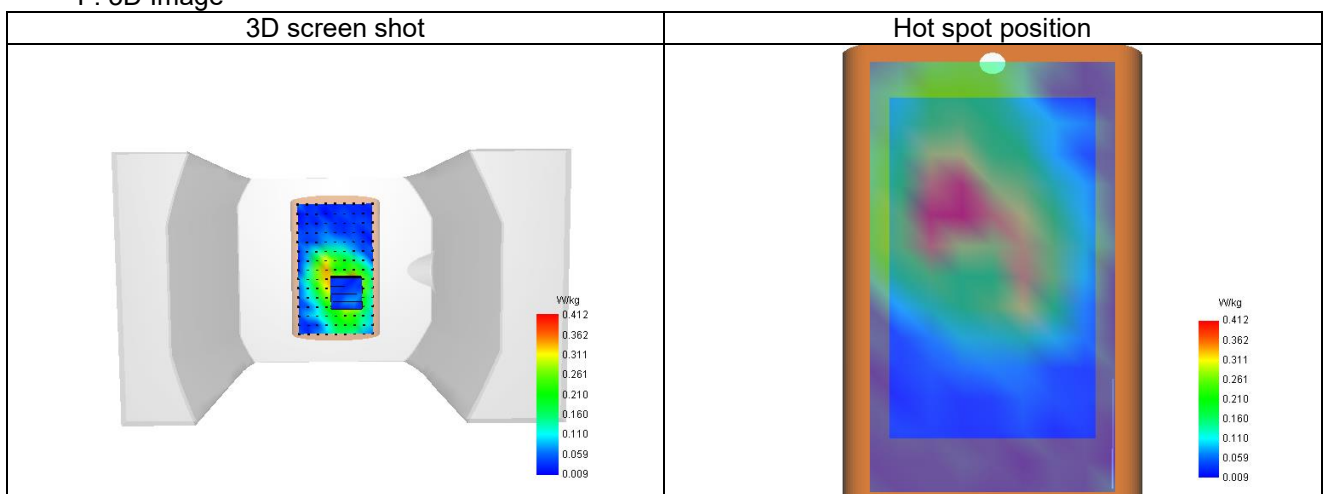
SAR 10g (W/Kg)	0.223
SAR 1g (W/Kg)	0.374
Variation (%)	0.520
Horizontal validation criteria: minimum distance (mm)	22.627417
Vertical validation criteria: SAR ratio M2/M1 (%)	66.252967

E. Z Axis Scan

Z (mm)	0.00	4.00	9.00	14.00	19.00	24.00	29.00
SAR (W/Kg)	0.534	0.376	0.249	0.171	0.101	0.062	0.028



F. 3D Image



Plot 13

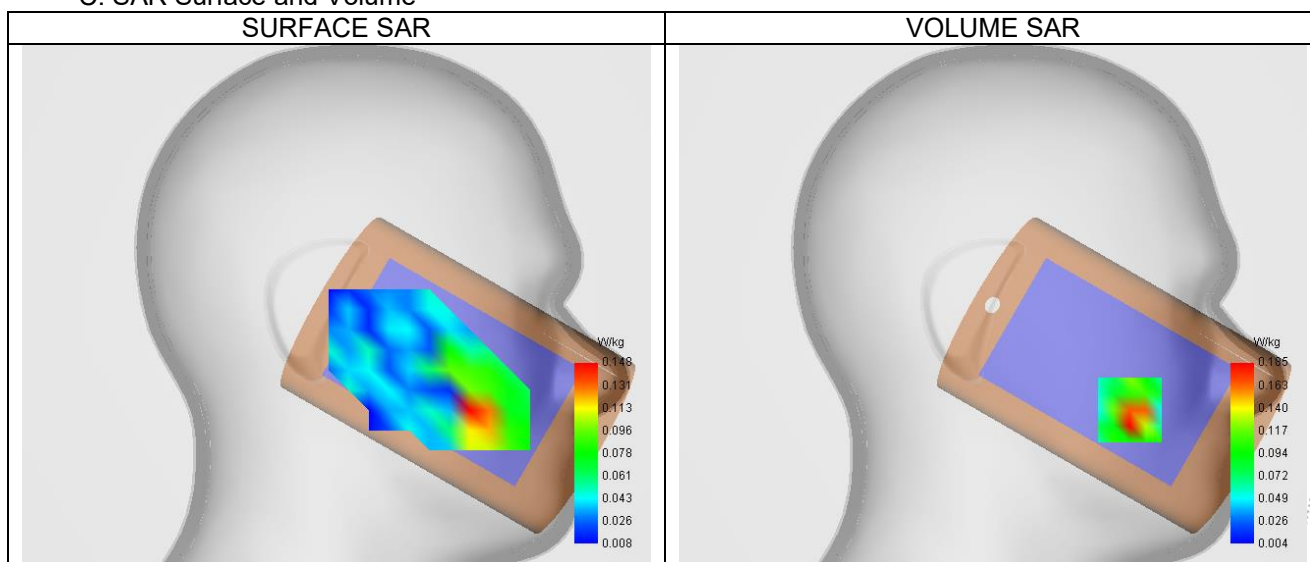
A. Experimental conditions.

Probe	SN EPGO362
ConvF	3.35
Area Scan	sam_direct_droit2_surf8mm.txt
Zoom Scan	5x5x7,dx=8mm dy=8mm dz=5mm,Complete
Phantom	Left head
Device Position	Cheek
Band	LTE band 4
Channels	Low (19957)
Signal	LTE (Crest factor: 1.0)

B. Permittivity

Frequency (MHz)	1720.000
Relative permittivity (real part)	40.116
Relative permittivity (imaginary part)	14.136
Conductivity (S/m)	1.361

C. SAR Surface and Volume

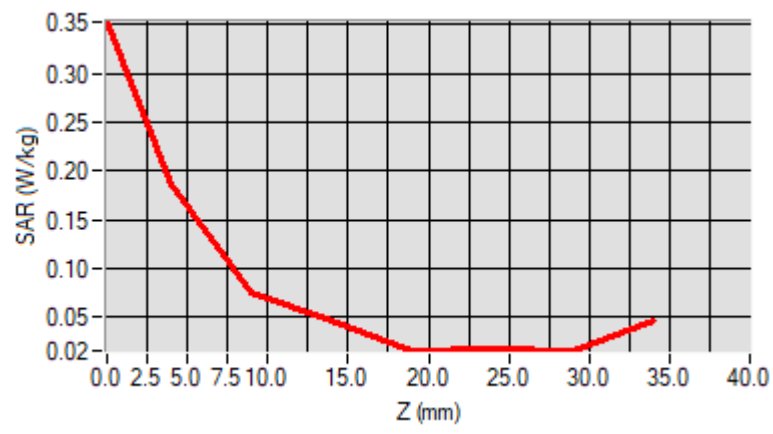


D. SAR 1g & 10g

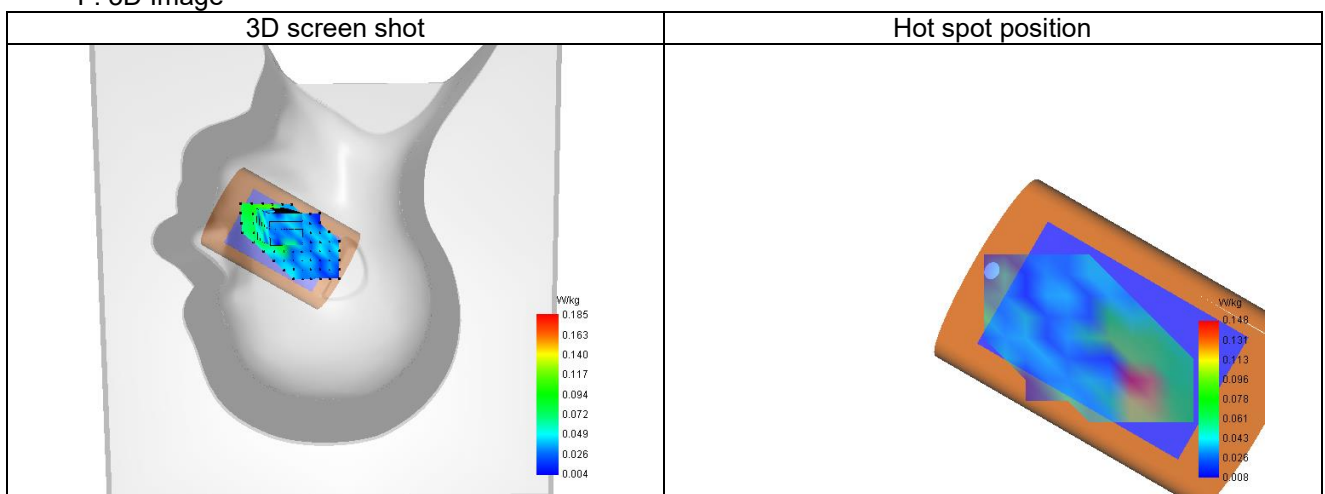
SAR 10g (W/Kg)	0.093
SAR 1g (W/Kg)	0.180
Variation (%)	2.550
Horizontal validation criteria: minimum distance (mm)	8.000000
Vertical validation criteria: SAR ratio M2/M1 (%)	56.315228

E. Z Axis Scan

Z (mm)	0.00	4.00	9.00	14.00	19.00	24.00	29.00
SAR (W/Kg)	0.353	0.185	0.076	0.046	0.016	0.018	0.016



F. 3D Image



Plot 14

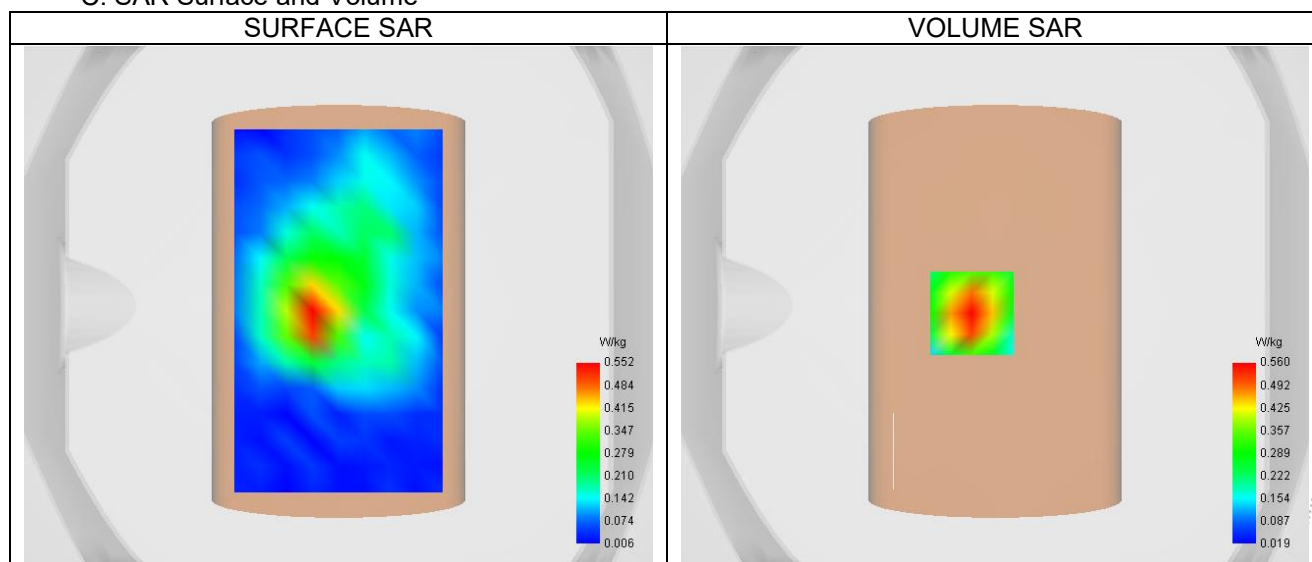
A. Experimental conditions.

Probe	SN EPG0362
ConvF	3.35
Area Scan	surf_sam_plan.txt
Zoom Scan	5x5x7,dx=8mm dy=8mm dz=5mm,Complete
Phantom	Validation plane
Device Position	Body
Band	LTE band 4
Channels	Low (19957)
Signal	LTE (Crest factor: 1.0)

B. Permittivity

Frequency (MHz)	1732.500
Relative permittivity (real part)	40.116
Relative permittivity (imaginary part)	14.136
Conductivity (S/m)	1.361

C. SAR Surface and Volume



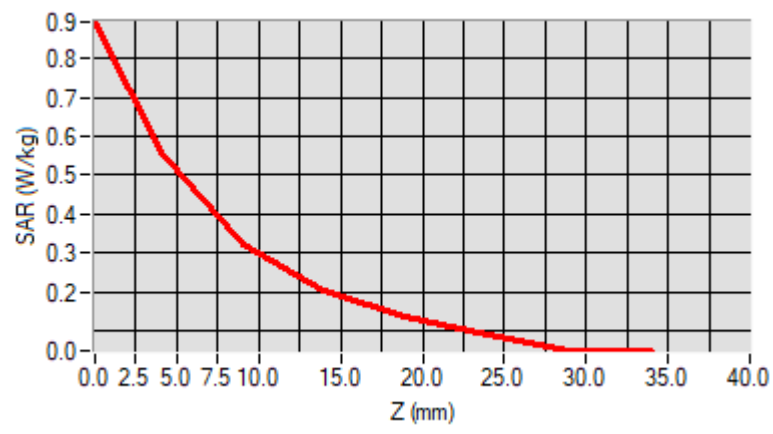
Maximum location: X=-9.00, Y=-3.00 ; SAR Peak: 0.91 W/kg

D. SAR 1g & 10g

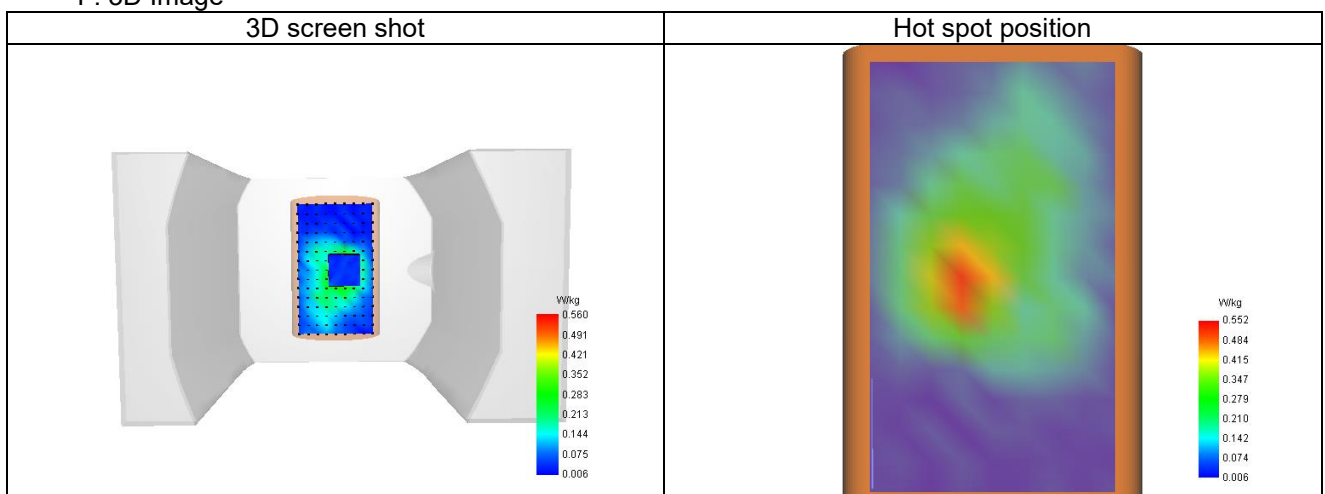
SAR 10g (W/Kg)	0.291
SAR 1g (W/Kg)	0.543
Variation (%)	-0.370
Horizontal validation criteria: minimum distance (mm)	16.000000
Vertical validation criteria: SAR ratio M2/M1 (%)	57.904251

E. Z Axis Scan

Z (mm)	0.00	4.00	9.00	14.00	19.00	24.00	29.00
SAR (W/Kg)	0.895	0.560	0.324	0.204	0.135	0.091	0.048



F. 3D Image



Plot 15

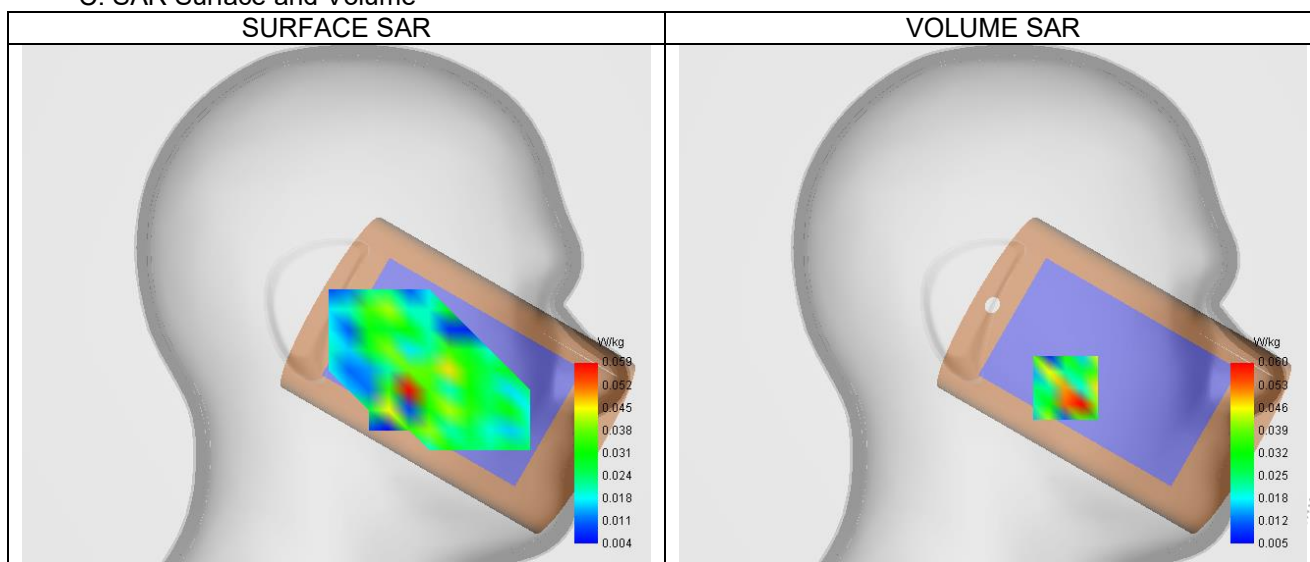
A. Experimental conditions.

Probe	SN EPGO362
ConvF	3.01
Area Scan	sam_direct_droit2_surf8mm.txt
Zoom Scan	5x5x7,dx=8mm dy=8mm dz=5mm,Complete
Phantom	Left head
Device Position	Cheek
Band	LTE band 5
Channels	Low (20407)
Signal	LTE (Crest factor: 1.0)

B. Permittivity

Frequency (MHz)	824.700
Relative permittivity (real part)	42.285
Relative permittivity (imaginary part)	20.225
Conductivity (S/m)	0.940

C. SAR Surface and Volume



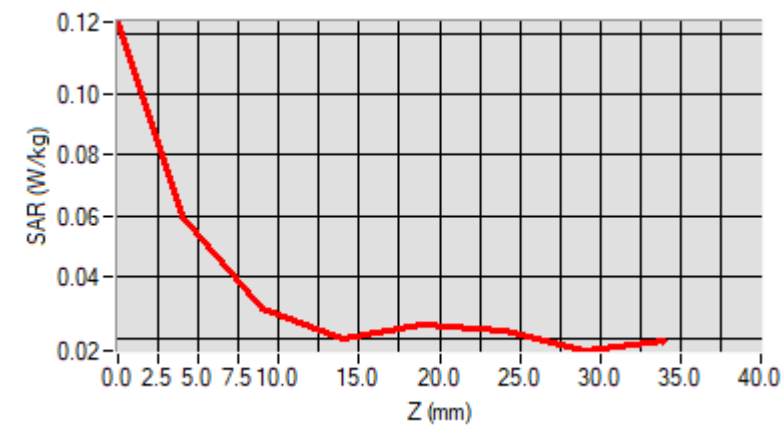
Maximum location: X=-36.00, Y=-41.00 ; SAR Peak: 0.12 W/kg

D. SAR 1g & 10g

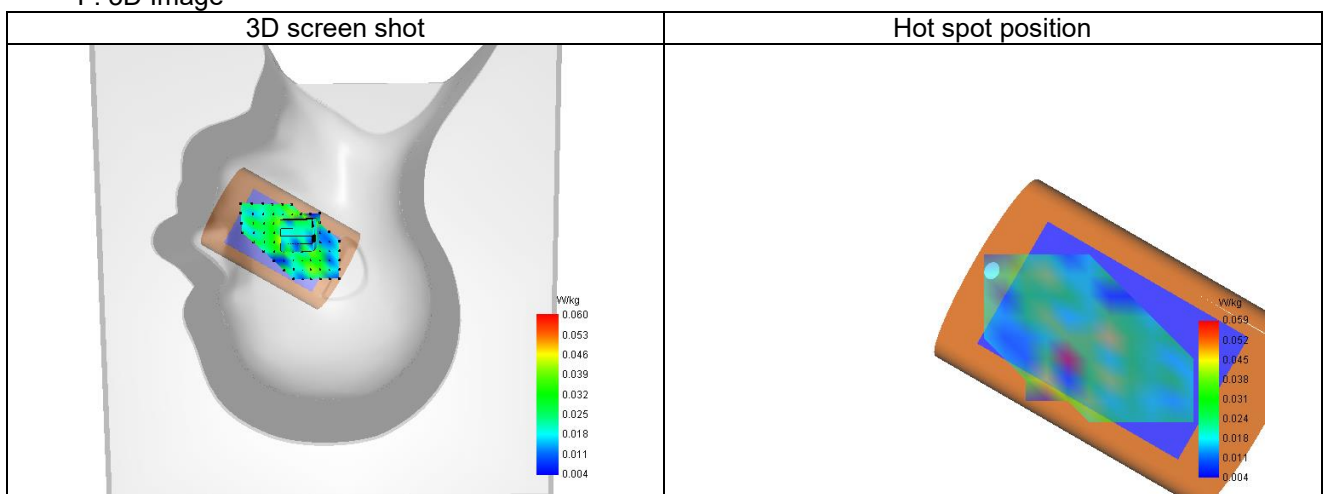
SAR 10g (W/Kg)	0.031
SAR 1g (W/Kg)	0.057
Variation (%)	-0.650
Horizontal validation criteria: minimum distance (mm)	8.000000
Vertical validation criteria: SAR ratio M2/M1 (%)	53.936351

E. Z Axis Scan

Z (mm)	0.00	4.00	9.00	14.00	19.00	24.00	29.00
SAR (W/Kg)	0.124	0.060	0.030	0.020	0.024	0.023	0.016



F. 3D Image



Plot 16

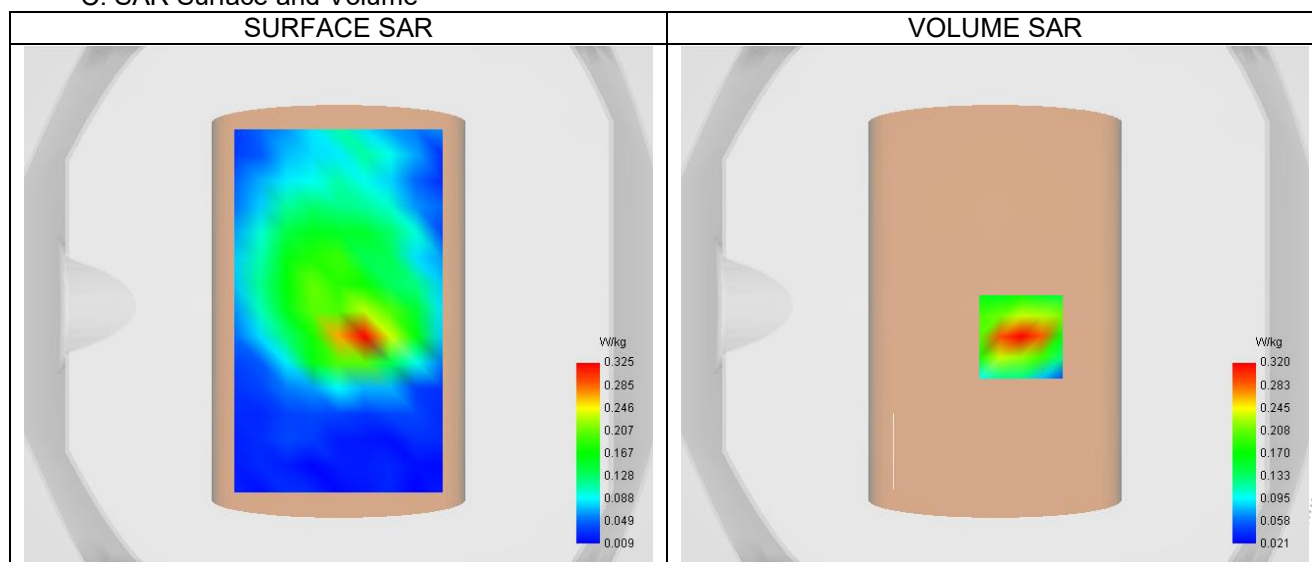
A. Experimental conditions.

Probe	SN EPGO362
ConvF	3.01
Area Scan	surf_sam_plan.txt
Zoom Scan	5x5x7,dx=8mm dy=8mm dz=5mm,Complete
Phantom	Validation plane
Device Position	Body
Band	LTE band 5
Channels	Low (20407)
Signal	LTE (Crest factor: 1.0)

B. Permittivity

Frequency (MHz)	824.700
Relative permittivity (real part)	42.285
Relative permittivity (imaginary part)	20.225
Conductivity (S/m)	0.940

C. SAR Surface and Volume



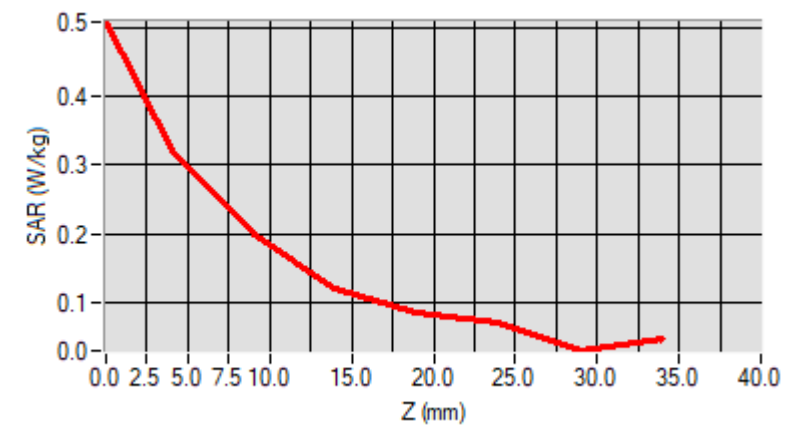
Maximum location: X=10.00, Y=-12.00 ; SAR Peak: 0.50 W/kg

D. SAR 1g & 10g

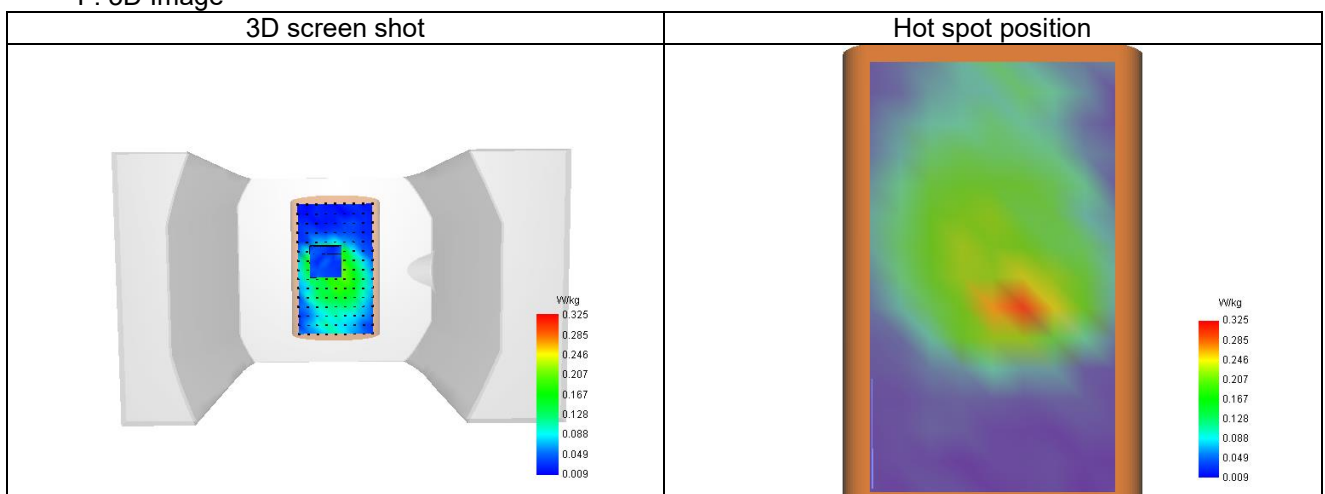
SAR 10g (W/Kg)	0.174
SAR 1g (W/Kg)	0.310
Variation (%)	1.520
Horizontal validation criteria: minimum distance (mm)	16.000000
Vertical validation criteria: SAR ratio M2/M1 (%)	62.350690

E. Z Axis Scan

Z (mm)	0.00	4.00	9.00	14.00	19.00	24.00	29.00
SAR (W/Kg)	0.507	0.320	0.200	0.121	0.086	0.071	0.030



F. 3D Image



Plot 17

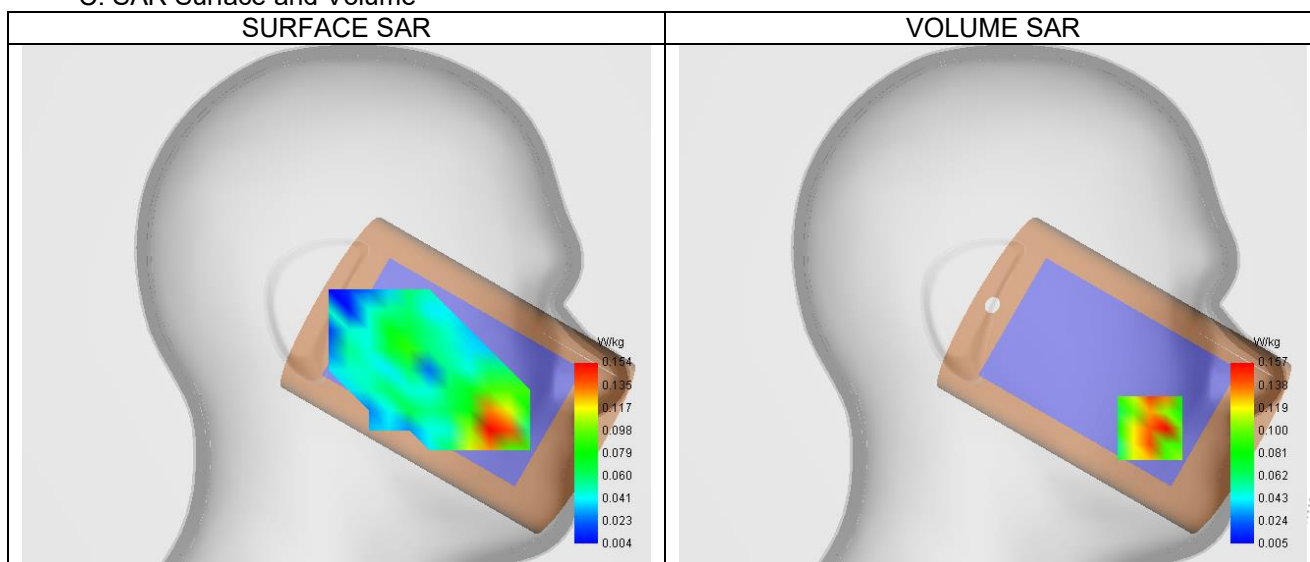
A. Experimental conditions.

Probe	SN EPGO362
ConvF	3.63
Area Scan	sam_direct_droit2_surf8mm.txt
Zoom Scan	5x5x7,dx=8mm dy=8mm dz=5mm,Complete
Phantom	Left head
Device Position	Cheek
Band	LTE band 7
Channels	High (21350)
Signal	LTE (Crest factor: 1.0)

B. Permittivity

Frequency (MHz)	2560.000
Relative permittivity (real part)	39.087
Relative permittivity (imaginary part)	13.418
Conductivity (S/m)	1.890

C. SAR Surface and Volume



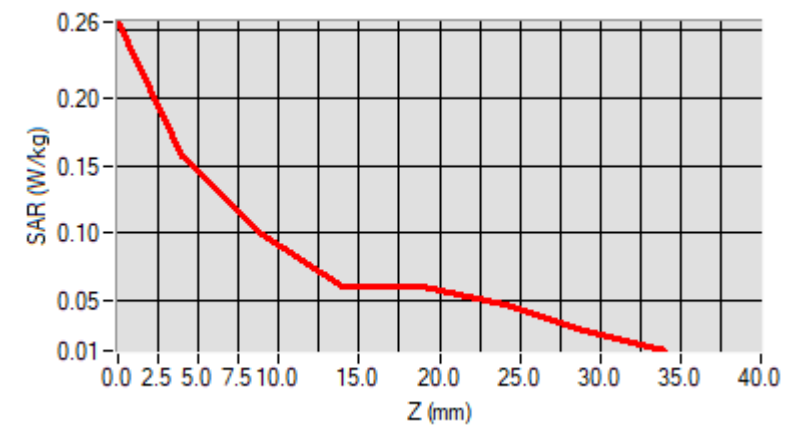
Maximum location: X=-78.00, Y=-61.00 ; SAR Peak: 0.32 W/kg

D. SAR 1g & 10g

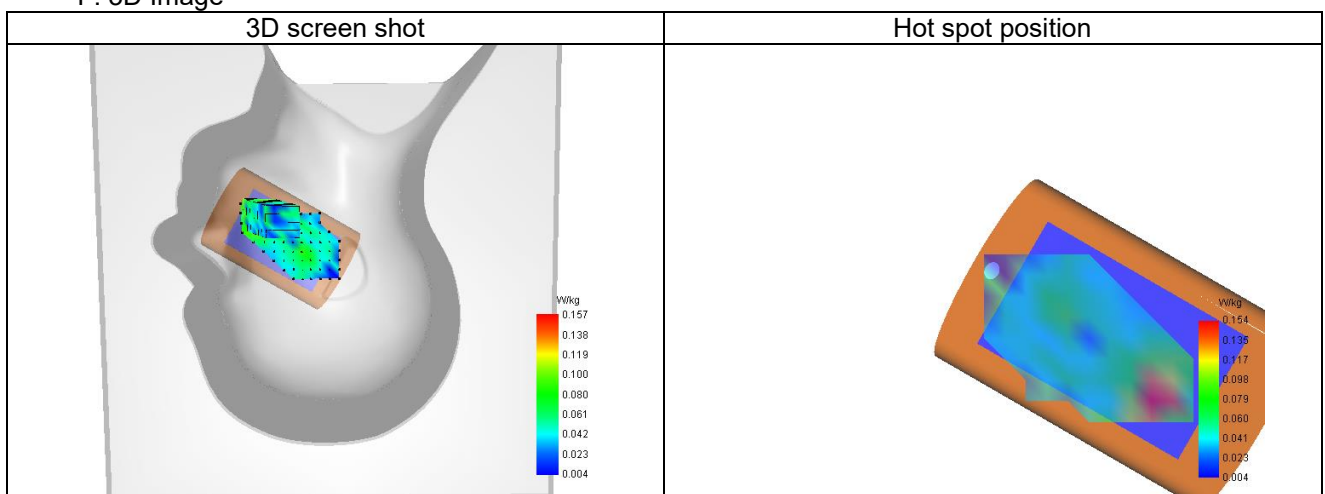
SAR 10g (W/Kg)	0.093
SAR 1g (W/Kg)	0.160
Variation (%)	-4.390
Horizontal validation criteria: minimum distance (mm)	25.298221
Vertical validation criteria: SAR ratio M2/M1 (%)	67.046972

E. Z Axis Scan

Z (mm)	0.00	4.00	9.00	14.00	19.00	24.00	29.00
SAR (W/Kg)	0.256	0.157	0.100	0.060	0.060	0.048	0.028



F. 3D Image



Plot 18

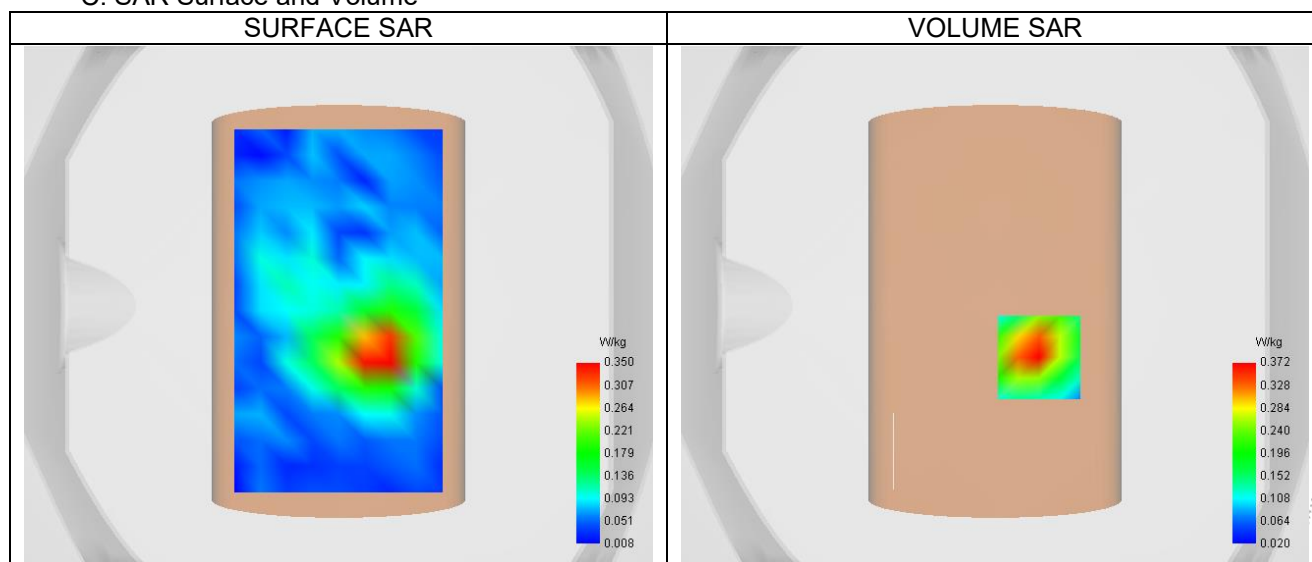
A. Experimental conditions.

Probe	SN EPG0362
ConvF	3.63
Area Scan	surf_sam_plan.txt
Zoom Scan	5x5x7,dx=8mm dy=8mm dz=5mm,Complete
Phantom	Validation plane
Device Position	Body
Band	LTE band 7
Channels	High (21350)
Signal	LTE (Crest factor: 1.0)

B. Permittivity

Frequency (MHz)	2560.000
Relative permittivity (real part)	39.087
Relative permittivity (imaginary part)	13.418
Conductivity (S/m)	1.890

C. SAR Surface and Volume



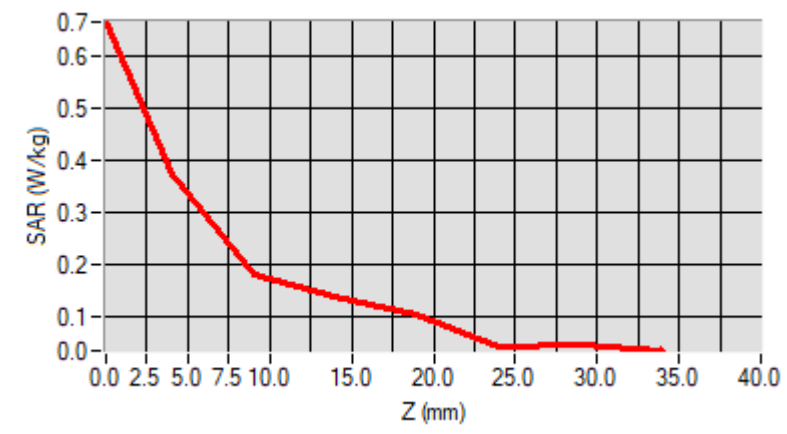
Maximum location: X=17.00, Y=-20.00 ; SAR Peak: 0.65 W/kg

D. SAR 1g & 10g

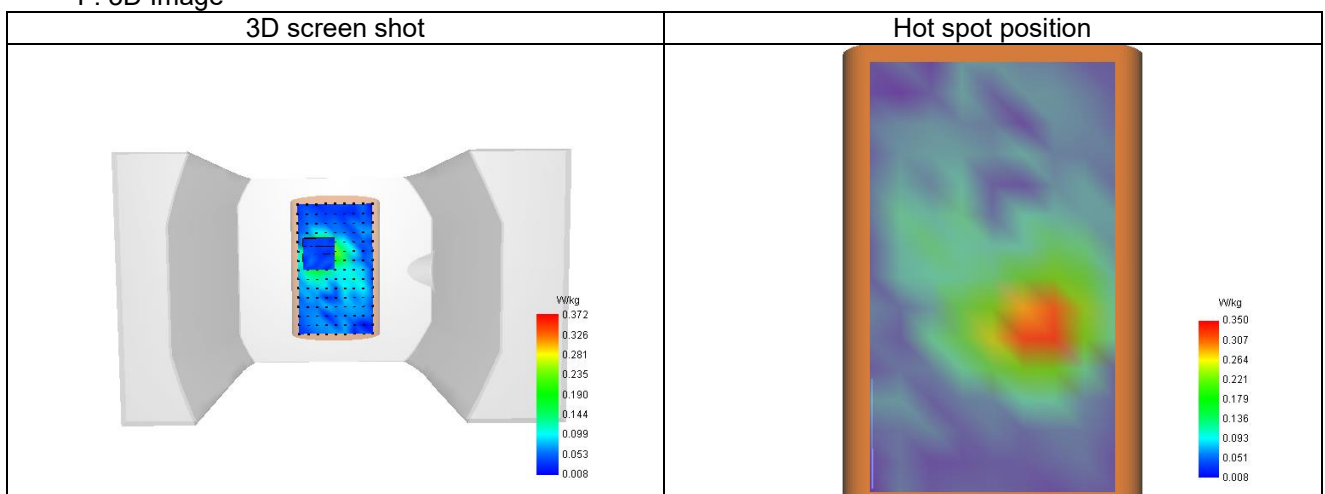
SAR 10g (W/Kg)	0.184
SAR 1g (W/Kg)	0.359
Variation (%)	4.720
Horizontal validation criteria: minimum distance (mm)	11.313708
Vertical validation criteria: SAR ratio M2/M1 (%)	48.913030

E. Z Axis Scan

Z (mm)	0.00	4.00	9.00	14.00	19.00	24.00	29.00
SAR (W/Kg)	0.666	0.372	0.182	0.138	0.105	0.044	0.048



F. 3D Image



Plot 19

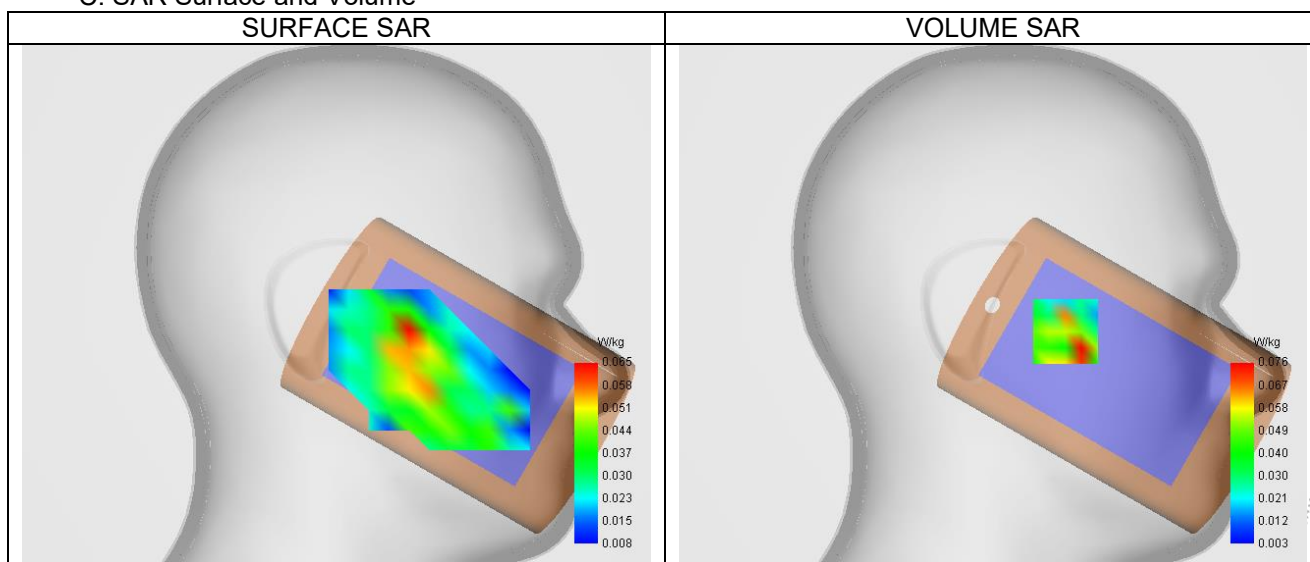
A. Experimental conditions.

Probe	SN EPGO362
ConvF	2.96
Area Scan	sam_direct_droit2_surf8mm.txt
Zoom Scan	5x5x7,dx=8mm dy=8mm dz=5mm,Complete
Phantom	Left head
Device Position	Cheek
Band	LTE band 12
Channels	Low (23017)
Signal	LTE (Crest factor: 1.0)

B. Permittivity

Frequency (MHz)	704.000
Relative permittivity (real part)	42.127
Relative permittivity (imaginary part)	23.264
Conductivity (S/m)	0.914

C. SAR Surface and Volume



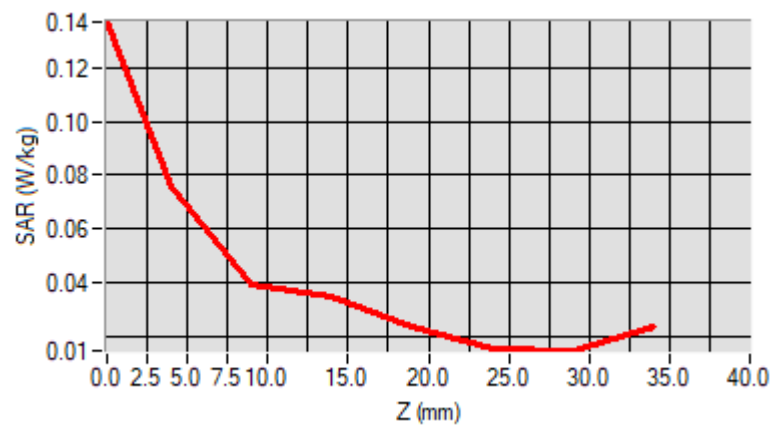
Maximum location: X=-36.00, Y=-13.00 ; SAR Peak: 0.16 W/kg

D. SAR 1g & 10g

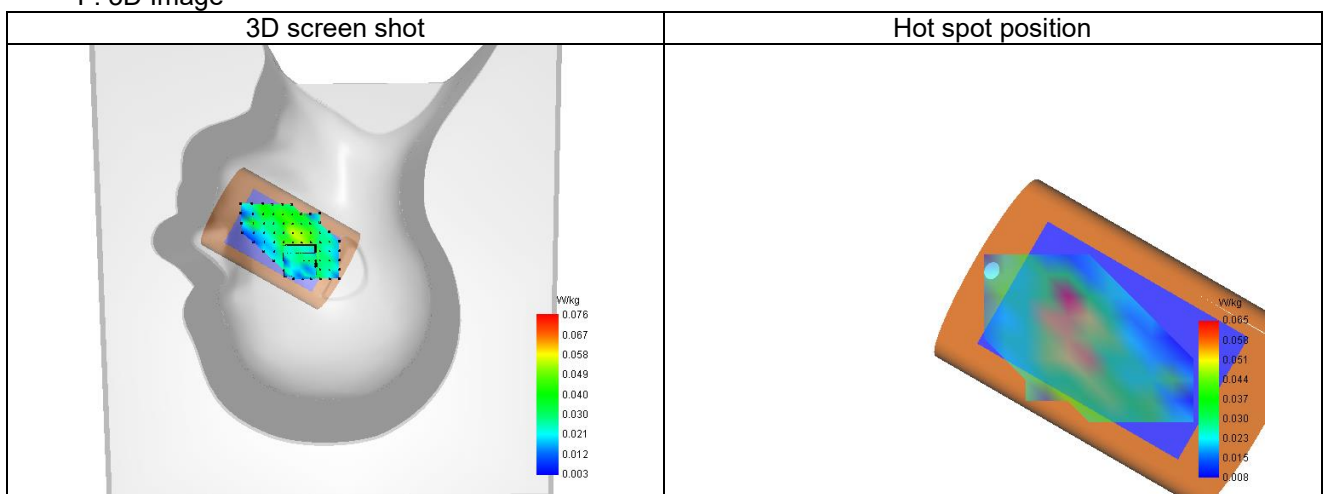
SAR 10g (W/Kg)	0.044
SAR 1g (W/Kg)	0.079
Variation (%)	-0.000
Horizontal validation criteria: minimum distance (mm)	11.313708
Vertical validation criteria: SAR ratio M2/M1 (%)	46.238276

E. Z Axis Scan

Z (mm)	0.00	4.00	9.00	14.00	19.00	24.00	29.00
SAR (W/Kg)	0.137	0.076	0.039	0.035	0.024	0.015	0.015



F. 3D Image



Plot 20

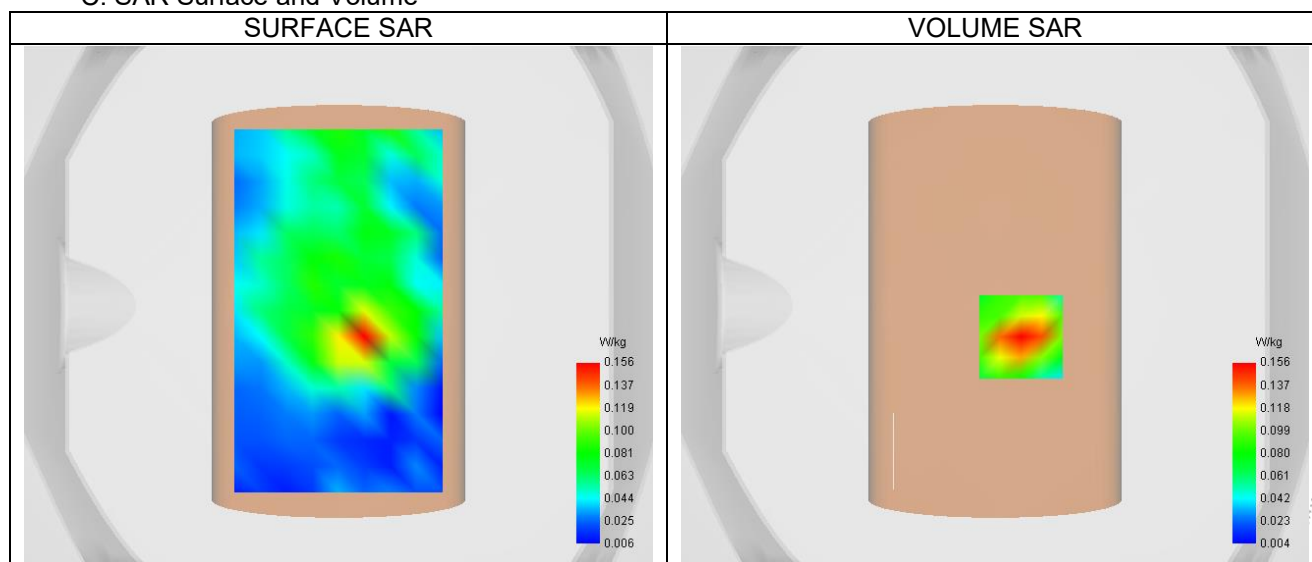
A. Experimental conditions.

Probe	SN EPGO362
ConvF	2.96
Area Scan	surf_sam_plan.txt
Zoom Scan	5x5x7,dx=8mm dy=8mm dz=5mm,Complete
Phantom	Validation plane
Device Position	Body
Band	LTE band 12
Channels	Low (23017)
Signal	LTE (Crest factor: 1.0)

B. Permittivity

Frequency (MHz)	704.000
Relative permittivity (real part)	42.127
Relative permittivity (imaginary part)	23.264
Conductivity (S/m)	0.914

C. SAR Surface and Volume



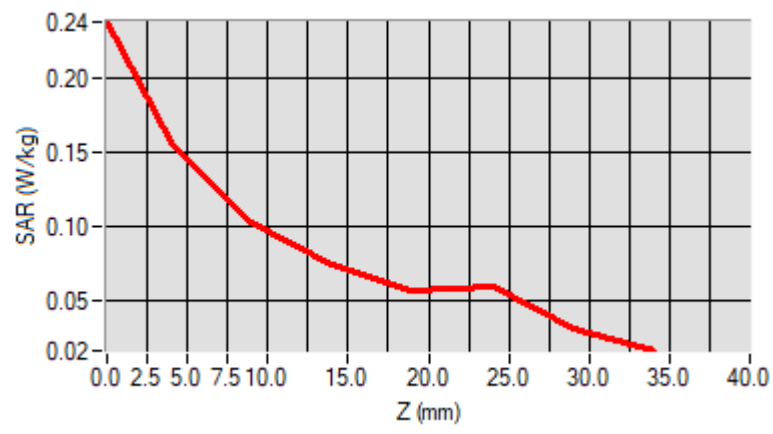
Maximum location: X=10.00, Y=-12.00 ; SAR Peak: 0.24 W/kg

D. SAR 1g & 10g

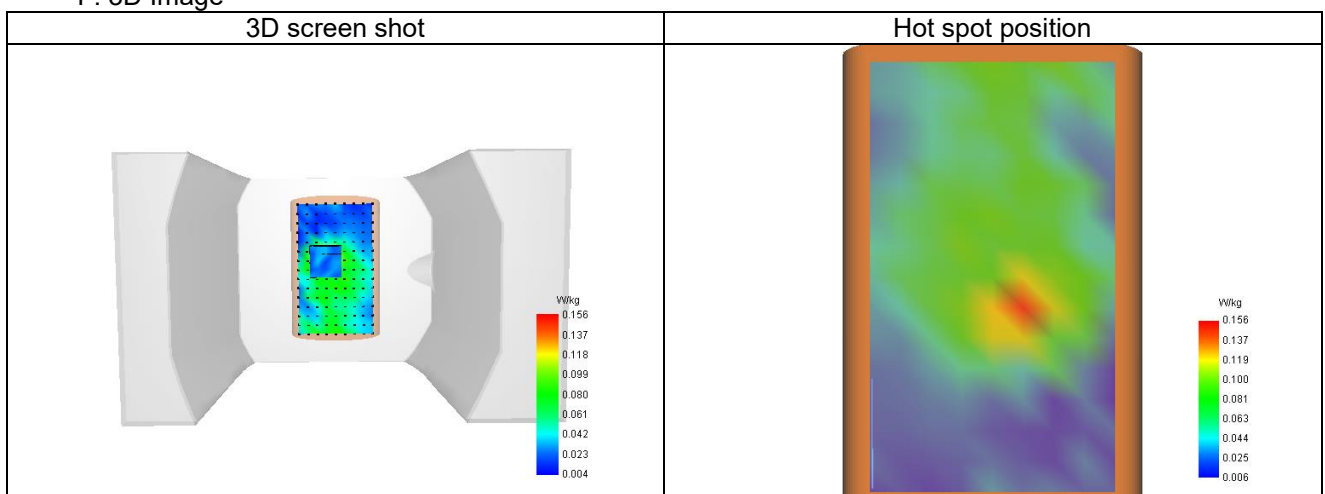
SAR 10g (W/Kg)	0.090
SAR 1g (W/Kg)	0.150
Variation (%)	-1.510
Horizontal validation criteria: minimum distance (mm)	17.888544
Vertical validation criteria: SAR ratio M2/M1 (%)	65.621857

E. Z Axis Scan

Z (mm)	0.00	4.00	9.00	14.00	19.00	24.00	29.00
SAR (W/Kg)	0.238	0.156	0.102	0.075	0.057	0.059	0.031



F. 3D Image



Plot 21

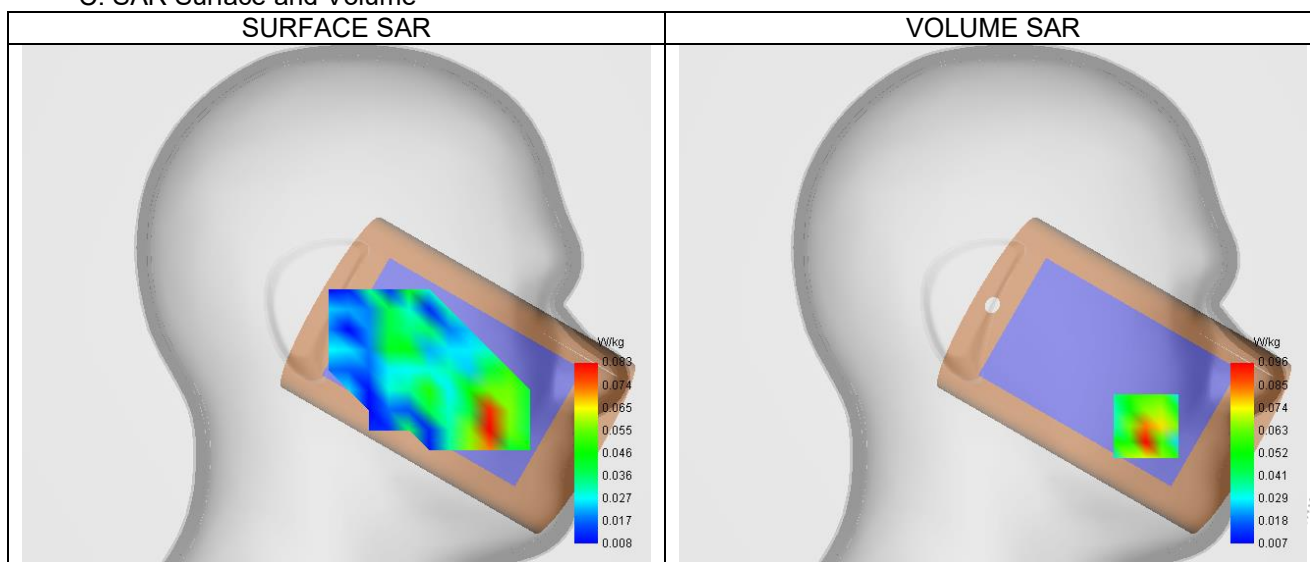
A. Experimental conditions.

Probe	SN EPG0362
ConvF	2.96
Area Scan	sam_direct_droit2_surf8mm.txt
Zoom Scan	5x5x7,dx=8mm dy=8mm dz=5mm,Complete
Phantom	Left head
Device Position	Cheek
Band	LTE band 17
Channels	Low (23780)
Signal	LTE (Crest factor: 1.0)

B. Permittivity

Frequency (MHz)	709.000
Relative permittivity (real part)	42.113
Relative permittivity (imaginary part)	23.152
Conductivity (S/m)	0.913

C. SAR Surface and Volume



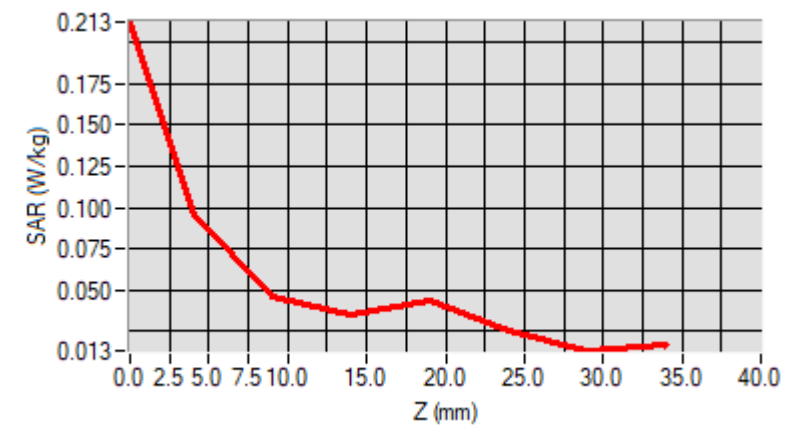
Maximum location: X=-76.00, Y=-60.00 ; SAR Peak: 0.17 W/kg

D. SAR 1g & 10g

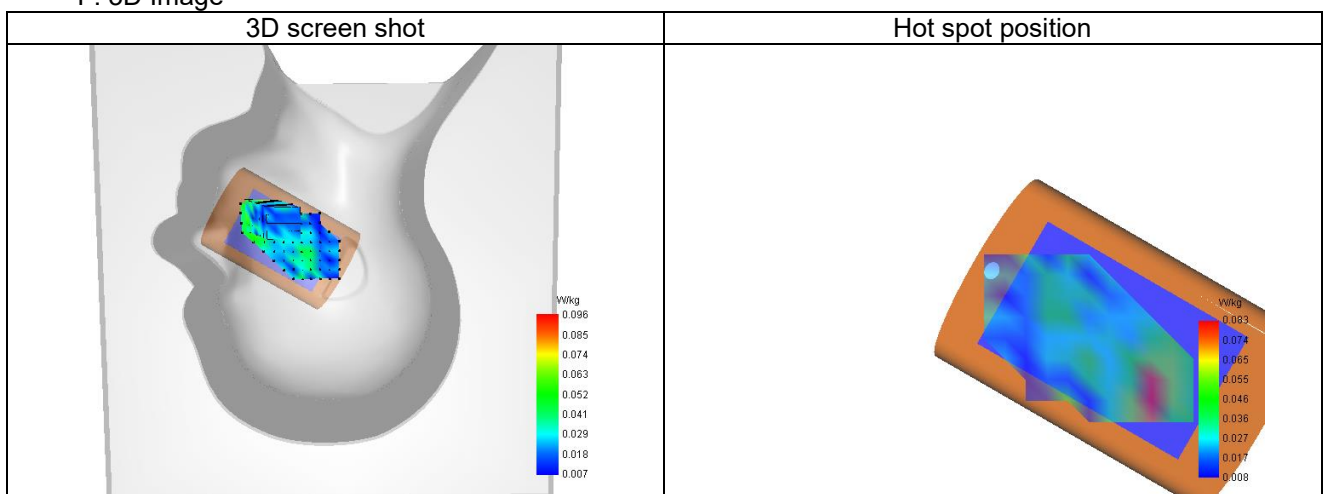
SAR 10g (W/Kg)	0.050
SAR 1g (W/Kg)	0.078
Variation (%)	-2.040
Horizontal validation criteria: minimum distance (mm)	16.000000
Vertical validation criteria: SAR ratio M2/M1 (%)	73.767493

E. Z Axis Scan

Z (mm)	0.00	4.00	9.00	14.00	19.00	24.00	29.00
SAR (W/Kg)	0.213	0.096	0.046	0.035	0.044	0.026	0.013



F. 3D Image



Plot 22

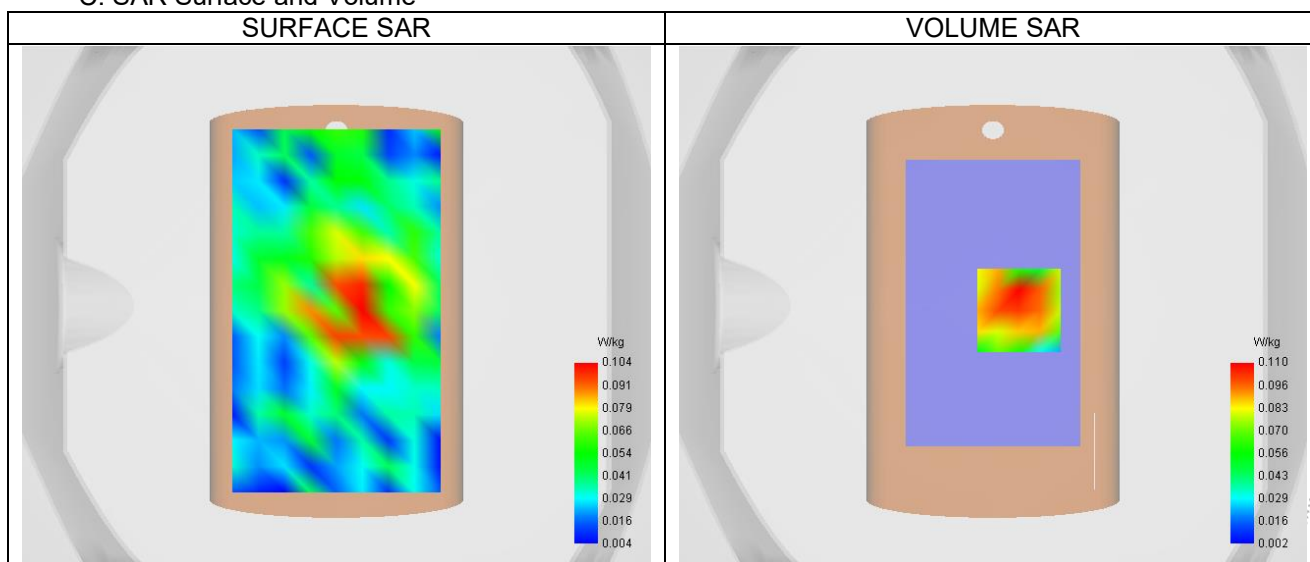
A. Experimental conditions.

Probe	SN EPG0362
ConvF	2.96
Area Scan	surf_sam_plan.txt
Zoom Scan	5x5x7,dx=8mm dy=8mm dz=5mm,Complete
Phantom	Validation plane
Device Position	Body
Band	LTE band 17
Channels	Low (23780)
Signal	LTE (Crest factor: 1.0)

B. Permittivity

Frequency (MHz)	709.000
Relative permittivity (real part)	42.113
Relative permittivity (imaginary part)	23.152
Conductivity (S/m)	0.913

C. SAR Surface and Volume



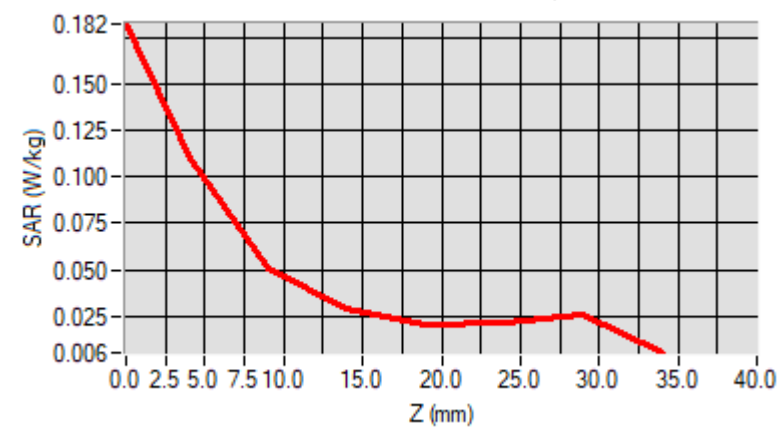
Maximum location: X=10.00, Y=-2.00 ; SAR Peak: 0.20 W/kg

D. SAR 1g & 10g

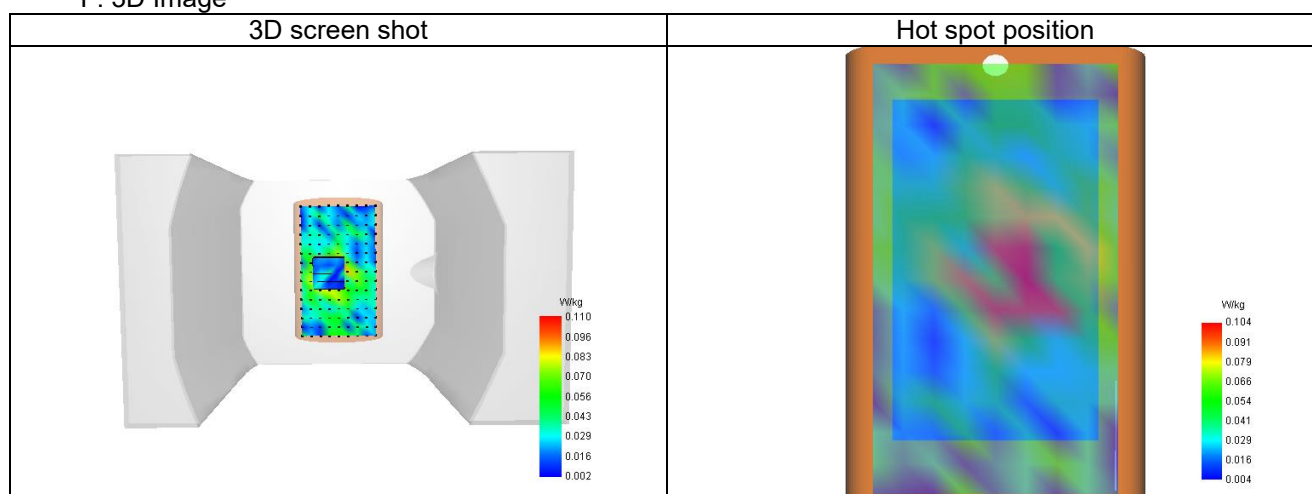
SAR 10g (W/Kg)	0.067
SAR 1g (W/Kg)	0.112
Variation (%)	-2.070
Horizontal validation criteria: minimum distance (mm)	11.313708
Vertical validation criteria: SAR ratio M2/M1 (%)	73.502124

E. Z Axis Scan

Z (mm)	0.00	4.00	9.00	14.00	19.00	24.00	29.00
SAR (W/Kg)	0.182	0.110	0.051	0.030	0.021	0.022	0.026



F. 3D Image



Plot 23

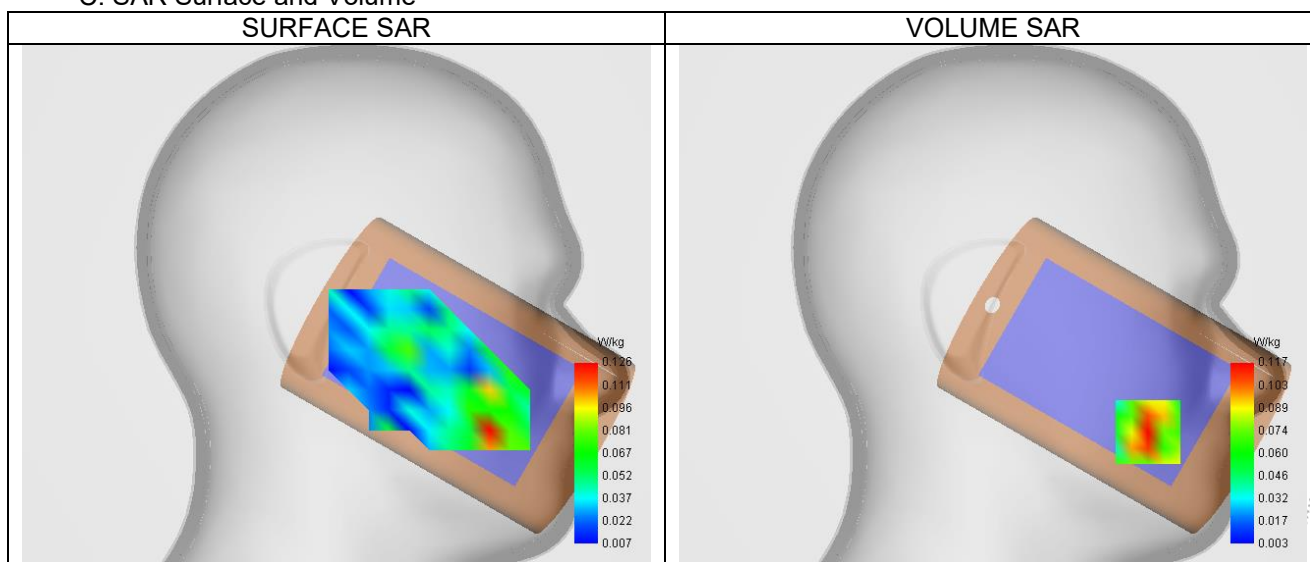
A. Experimental conditions.

Probe	SN EPG0362
ConvF	3.35
Area Scan	sam_direct_droit2_surf8mm.txt
Zoom Scan	5x5x7,dx=8mm dy=8mm dz=5mm,Complete
Phantom	Left head
Device Position	Cheek
Band	LTEBand66
Channels	High (132572)
Signal	Custom (Crest factor: 1.0)

B. Permittivity

Frequency (MHz)	1770.000
Relative permittivity (real part)	40.090
Relative permittivity (imaginary part)	14.081
Conductivity (S/m)	1.373

C. SAR Surface and Volume



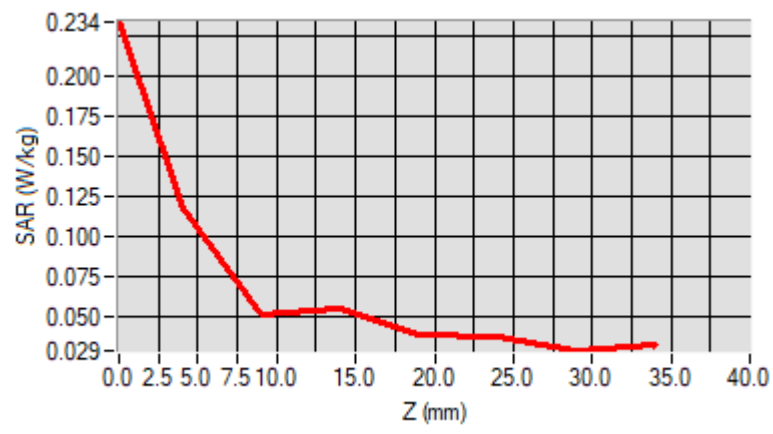
Maximum location: X=-77.00, Y=-63.00 ; SAR Peak: 0.23 W/kg

D. SAR 1g & 10g

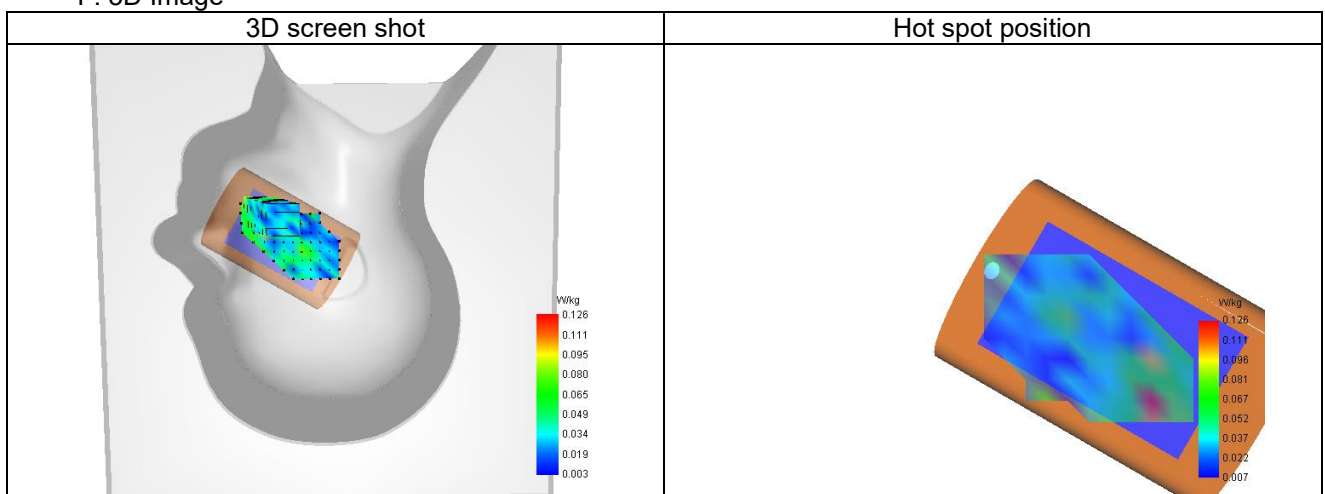
SAR 10g (W/Kg)	0.068
SAR 1g (W/Kg)	0.121
Variation (%)	-0.610
Horizontal validation criteria: minimum distance (mm)	16.000000
Vertical validation criteria: SAR ratio M2/M1 (%)	43.483600

E. Z Axis Scan

Z (mm)	0.00	4.00	9.00	14.00	19.00	24.00	29.00
SAR (W/Kg)	0.234	0.117	0.051	0.055	0.039	0.037	0.029



F. 3D Image



Plot 24

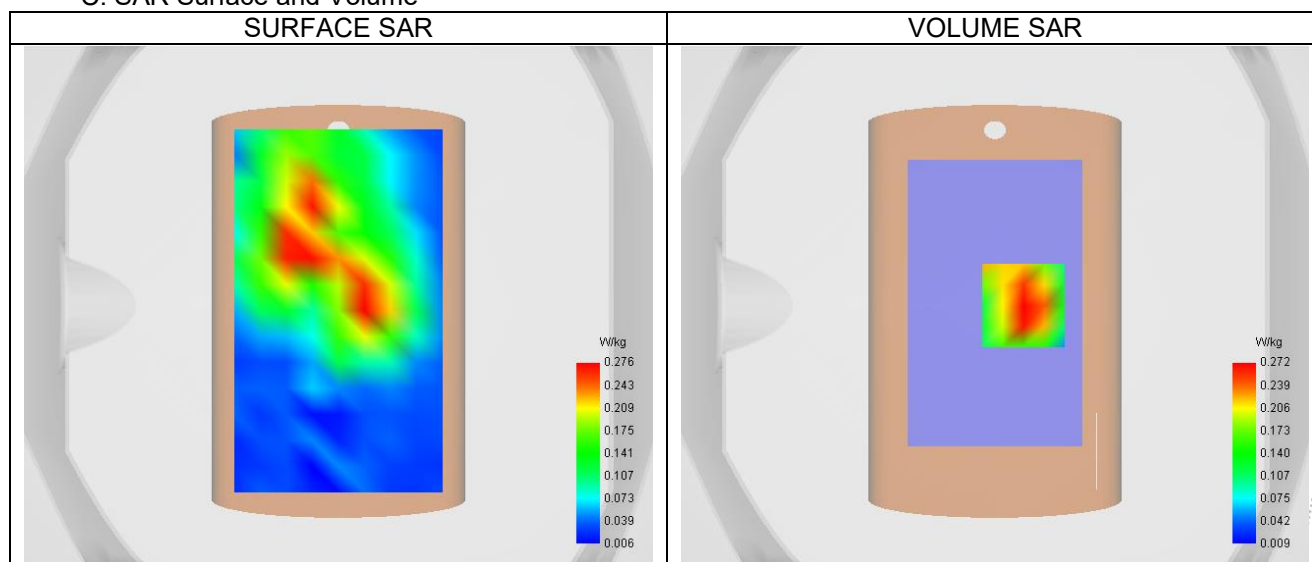
A. Experimental conditions.

Probe	SN EPG0362
ConvF	3.35
Area Scan	surf_sam_plan.txt
Zoom Scan	5x5x7,dx=8mm dy=8mm dz=5mm,Complete
Phantom	Validation plane
Device Position	Body
Band	LTEBand66
Channels	High (132572)
Signal	Custom (Crest factor: 1.0)

B. Permittivity

Frequency (MHz)	1770.000
Relative permittivity (real part)	40.090
Relative permittivity (imaginary part)	14.081
Conductivity (S/m)	1.373

C. SAR Surface and Volume



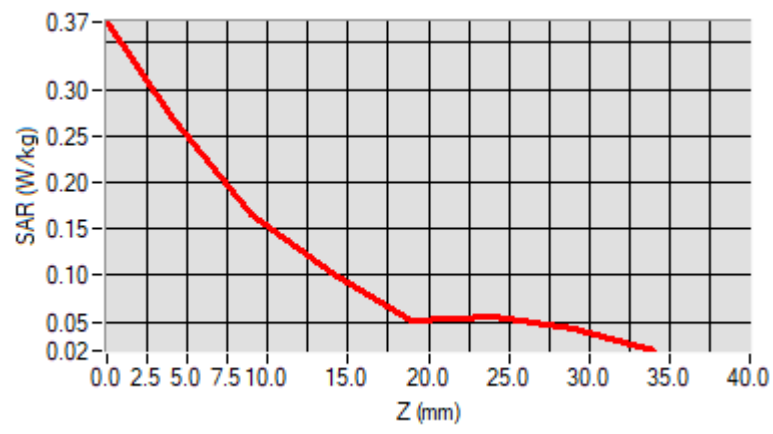
Maximum location: X=11.00, Y=0.00 ; SAR Peak: 0.42 W/kg

D. SAR 1g & 10g

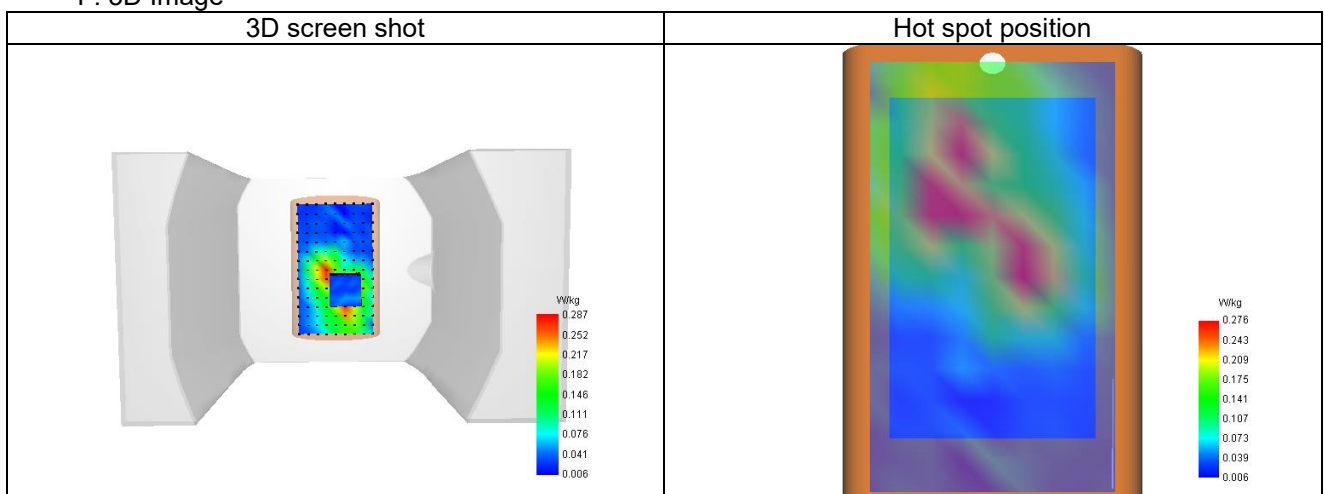
SAR 10g (W/Kg)	0.144
SAR 1g (W/Kg)	0.257
Variation (%)	1.440
Horizontal validation criteria: minimum distance (mm)	16.000000
Vertical validation criteria: SAR ratio M2/M1 (%)	60.568893

E. Z Axis Scan

Z (mm)	0.00	4.00	9.00	14.00	19.00	24.00	29.00
SAR (W/Kg)	0.373	0.272	0.165	0.102	0.052	0.054	0.042



F. 3D Image



Plot 25

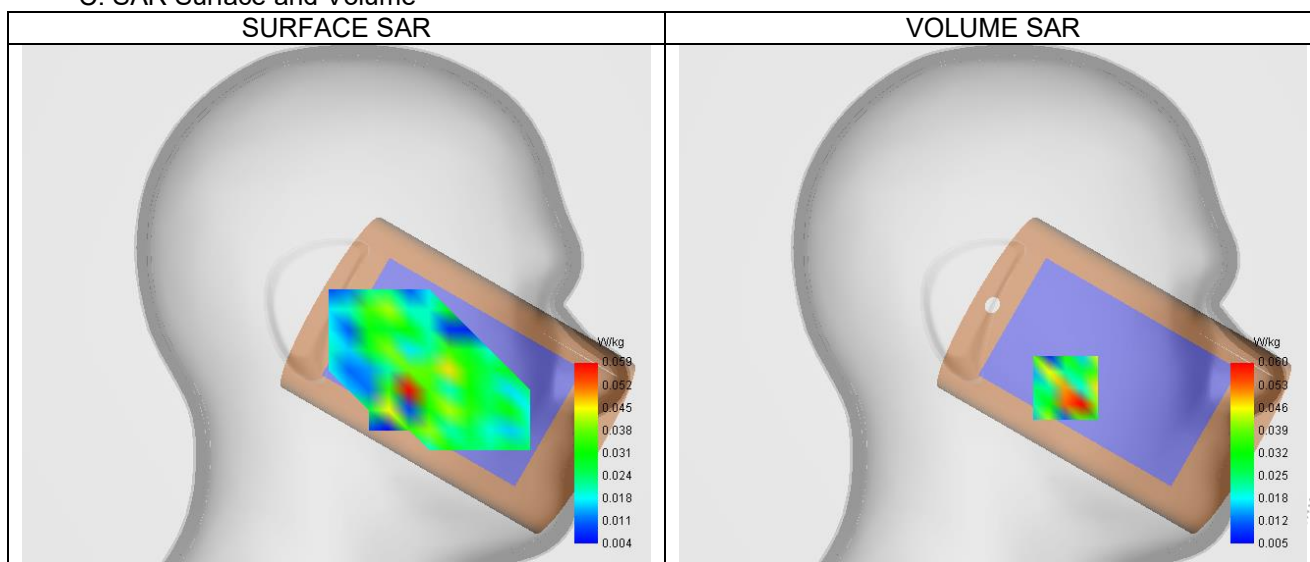
A. Experimental conditions.

Probe	SN EPGO362
ConvF	3.01
Area Scan	sam_direct_droit2_surf8mm.txt
Zoom Scan	5x5x7,dx=8mm dy=8mm dz=5mm,Complete
Phantom	Left head
Device Position	Cheek
Band	BT
Channels	Middle (19)
Signal	GFSK (Crest factor: 1.0)

B. Permittivity

Frequency (MHz)	2441.000
Relative permittivity (real part)	42.285
Relative permittivity (imaginary part)	20.225
Conductivity (S/m)	0.940

C. SAR Surface and Volume



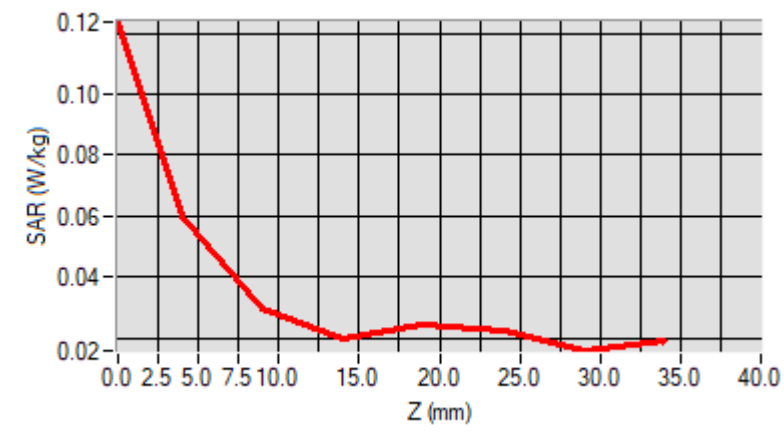
Maximum location: X=-36.00, Y=-41.00 ; SAR Peak: 0.12 W/kg

D. SAR 1g & 10g

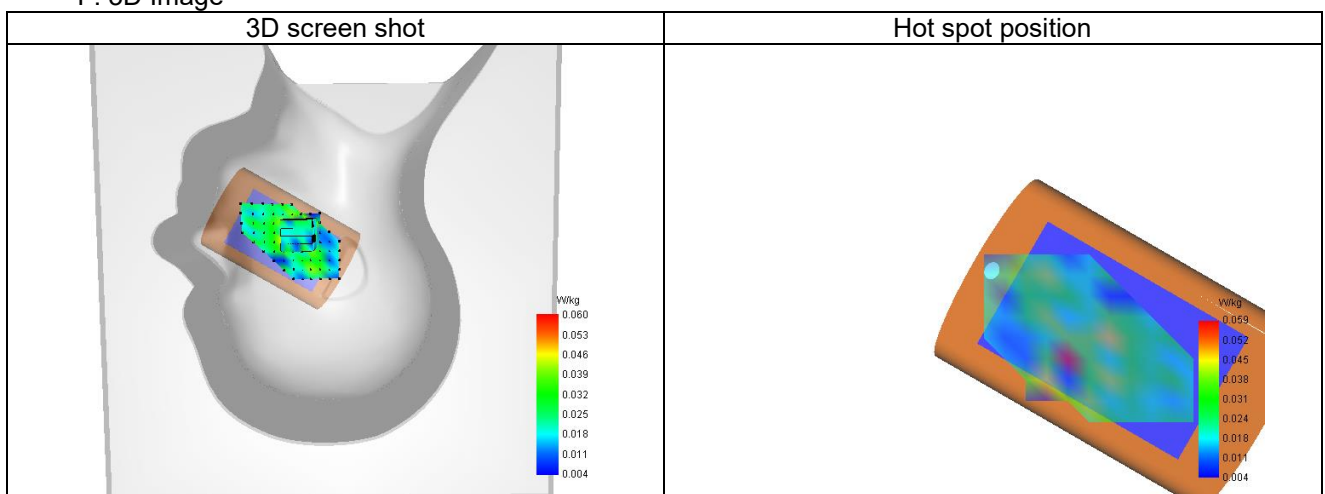
SAR 10g (W/Kg)	0.031
SAR 1g (W/Kg)	0.055
Variation (%)	-0.600
Horizontal validation criteria: minimum distance (mm)	8.000000
Vertical validation criteria: SAR ratio M2/M1 (%)	53.936351

E. Z Axis Scan

Z (mm)	0.00	4.00	9.00	14.00	19.00	24.00	29.00
SAR (W/Kg)	0.123	0.058	0.030	0.020	0.024	0.023	0.016



F. 3D Image



Plot 26

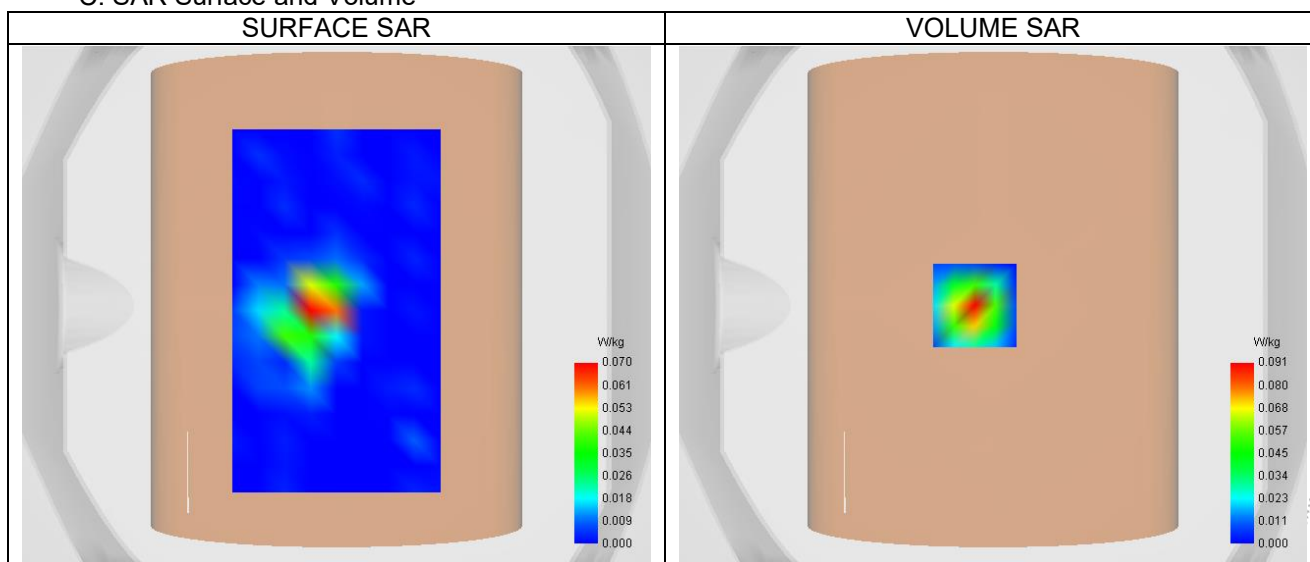
A. Experimental conditions.

Probe	SN EPGO362
ConvF	25.73
Area Scan	surf_sam_plan.txt
Zoom Scan	5x5x7,dx=8mm dy=8mm dz=5mm,Very fast
Phantom	Validation plane
Device Position	Body
Band	BT
Channels	Middle (19)
Signal	GFSK (Crest factor: 1.0)

B. Permittivity

Frequency (MHz)	2441.000
Relative permittivity (real part)	39.226
Relative permittivity (imaginary part)	13.207
Conductivity (S/m)	1.788

C. SAR Surface and Volume



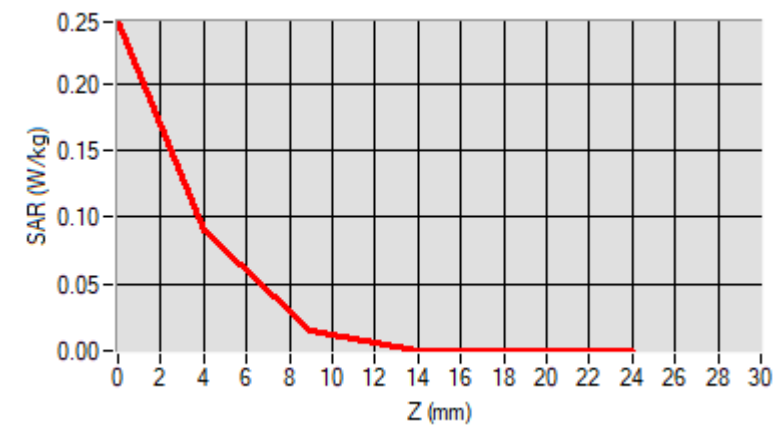
Maximum location: X=-7.00, Y=0.00 ; SAR Peak: 0.26 W/kg

D. SAR 1g & 10g

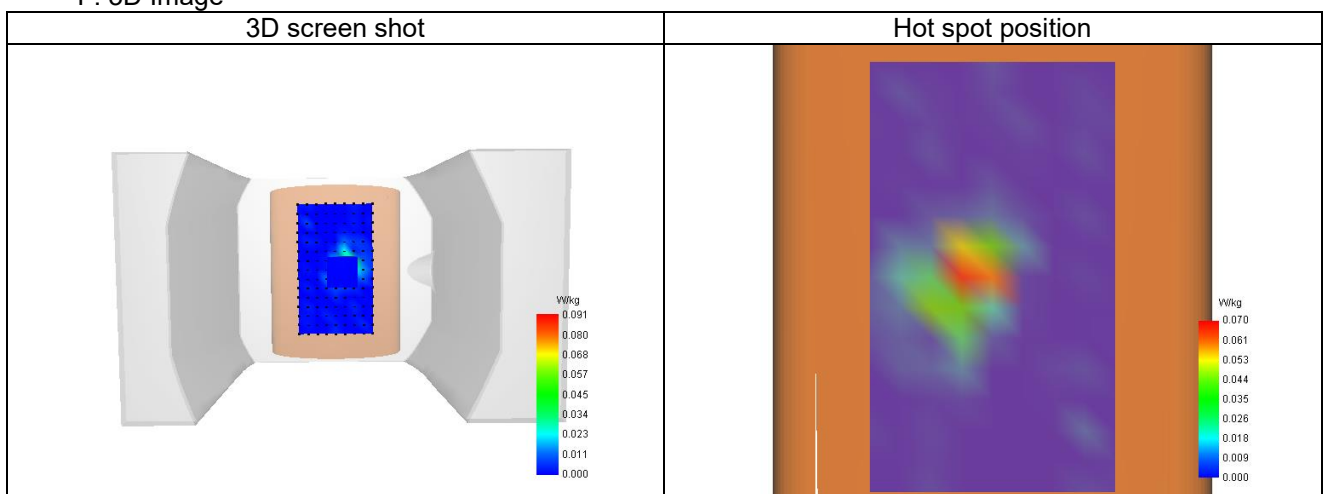
SAR 10g (W/Kg)	0.030
SAR 1g (W/Kg)	0.090
Variation (%)	-2.100
Horizontal validation criteria: minimum distance (mm)	0.000000
Vertical validation criteria: SAR ratio M2/M1 (%)	0.000000

E. Z Axis Scan

Z (mm)	0.00	4.00	9.00	14.00	19.00
SAR (W/Kg)	0.247	0.090	0.014	0.001	0.000

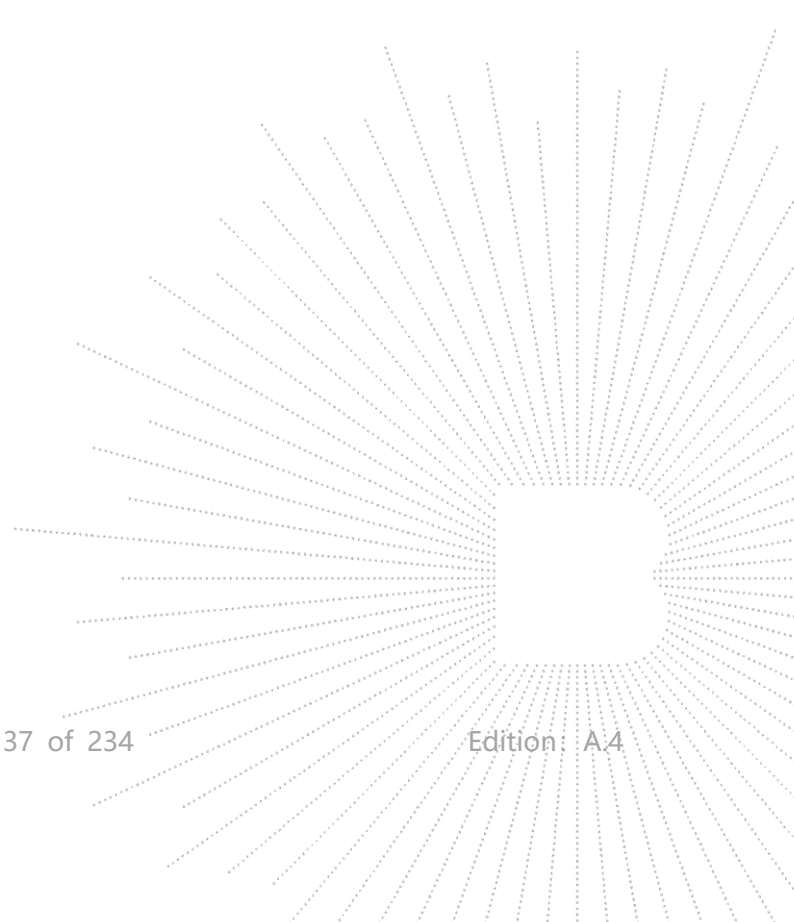


F. 3D Image



16. CALIBRATION CERTIFICATES

Probe-EPGO362 Calibration Certificate
SID835Dipole Calibration Certificate
SID900Dipole Calibration Certificate
SID1800Dipole Calibration Certificate
SID2100Dipole Calibration Certificate
SID2450Dipole Calibration Certificate
SID2600Dipole Calibration Certificate



**COMOSAR E-Field Probe Calibration Report**

Ref : ACR.329.6.21.BES.A

SHENZHEN BCTC TECHNOLOGY CO., LTD.

**1 ~2/ F, NO. B FACTORY BUILDING, PENGZHOU
INDUSTRIAL PARK, FUYUAN 1ST ROAD,
TANGWEI COMMUNITY, FUHAI STREET, BAO'AN
DISTRICT, SHENZHEN, GUANGDONG, CHINA
MVG COMOSAR DOSIMETRIC E-FIELD PROBE
SERIAL NO.: SN 46/21 EPG0362**

Calibrated at MVG**Z.I. de la pointe du diable**

**Technopôle Brest Iroise – 295 avenue Alexis de Rochon
29280 PLOUZANE - FRANCE**

Calibration date: 11/25/2021

Accreditations #2-6789
Scope available on www.cofrac.fr

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Summary:

This document presents the method and results from an accredited COMOSAR E-Field Probe calibration performed at MVG, using the CALIPROBE test bench, for use with a MVG COMOSAR system only. The test results covered by accreditation are traceable to the International System of Units (SI).

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	<i>Name</i>	<i>Function</i>	<i>Date</i>	<i>Signature</i>
<i>Prepared by :</i>	Jérôme Luc	Technical Manager	11/25/2021	<i>JS</i>
<i>Checked by :</i>	Jérôme Luc	Technical Manager	11/25/2021	<i>JS</i>
<i>Approved by :</i>	Yann Toutain	Laboratory Director	11/25/2021	<i>Yann TOUTAIN</i>

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11:50:23 +01'00'

	<i>Customer Name</i>
<i>Distribution :</i>	Shenzhen BCTC Technology Co., Ltd.

<i>Issue</i>	<i>Name</i>	<i>Date</i>	<i>Modifications</i>
A	Jérôme Luc	11/25/2021	Initial release



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1 DEVICE UNDER TEST

Device Under Test	
Device Type	COMOSAR DOSIMETRIC E FIELD PROBE
Manufacturer	MVG
Model	SSE2
Serial Number	SN 46/21 EPGO362
Product Condition (new / used)	New
Frequency Range of Probe	0.15 GHz-6GHz
Resistance of Three Dipoles at Connector	Dipole 1: R1=0.221 MΩ Dipole 2: R2=0.231 MΩ Dipole 3: R3=0.212 MΩ

2 PRODUCT DESCRIPTION

2.1 GENERAL INFORMATION

MVG's COMOSAR E field Probes are built in accordance to the IEC/IEEE 62209-1528 and FCC KDB865664 D01 standards.



Figure 1 – MVG COMOSAR Dosimetric E field Probe

Probe Length	330 mm
Length of Individual Dipoles	2 mm
Maximum external diameter	8 mm
Probe Tip External Diameter	2.5 mm
Distance between dipoles / probe extremity	1 mm

3 MEASUREMENT METHOD

The IEC/IEEE 62209-1528 and FCC KDB865664 D01 standards provide recommended practices for the probe calibrations, including the performance characteristics of interest and methods by which to assess their affect. All calibrations / measurements performed meet the fore mentioned standards.

3.1 LINEARITY

The evaluation of the linearity was done in free space using the waveguide, performing a power sweep to cover the SAR range 0.01W/kg to 100W/kg.

3.2 SENSITIVITY

The sensitivity factors of the three dipoles were determined using a two step calibration method (air and tissue simulating liquid) using waveguides as outlined in the standards.

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