

10. Measurement Uncertainty

10.1 Uncertainty for EUT SAR Test

a	b	c	d	e= f(d,k)	f	g	h= c*f/e	i= c*g/e	k
Uncertainty Component	Sec.	Tol (+ - %)	Prob. Dist.	Div.	Ci (1g)	Ci (10g)	1g Ui (+ - %)	10g Ui (+ - %)	Vi
Measurement System									
Probe calibration	E.2.1	7.0	N	1	1	1	7.00	7.00	∞
Axial Isotropy	E.2.2	2.5	R	$\sqrt{3}$	$(1_{Cp})^{1/2}$	$(1_{Cp})^{1/2}$	1.02	1.02	∞
Hemispherical Isotropy	E.2.2	4.0	R	$\sqrt{3}$	$(Cp)^{1/2}$	$(Cp)^{1/2}$	1.63	1.63	∞
Boundary effect	E.2.3	1.0	R	$\sqrt{3}$	1	1	0.58	0.58	∞
Linearity	E.2.4	5.0	R	$\sqrt{3}$	1	1	2.89	2.89	∞
System detection limits	E.2.5	1.0	R	$\sqrt{3}$	1	1	0.58	0.58	∞
Readout Electronics	E.2.6	0.02	N	1	1	1	0.02	0.02	∞
Reponse Time	E.2.7	3.0	R	$\sqrt{3}$	1	1	1.73	1.73	∞
Integration Time	E.2.8	2.0	R	$\sqrt{3}$	1	1	1.15	1.15	∞
RF ambient Conditions – Noise	E.6.1	3.0	R	$\sqrt{3}$	1	1	1.73	1.73	∞
RF ambient Conditions - Reflections	E.6.1	3.0	R	$\sqrt{3}$	1	1	1.73	1.73	∞
Probe positioner Mechanical Tolerance	E.6.2	2.0	R	$\sqrt{3}$	1	1	1.15	1.15	∞
Probe positioning with respect to Phantom Shell	E.6.3	0.05	R	$\sqrt{3}$	1	1	0.03	0.03	∞
Extrapolation, interpolation and integration Algorithms for Max. SAR Evaluation	E.5	5.0	R	$\sqrt{3}$	1	1	2.89	2.89	∞
Test Sample Related									
Test sample positioning	E.4.2	0.03	N	1	1	1	0.03	0.03	N-1
Device Holder Uncertainty	E.4.1	5.00	N	1	1	1	5.00	5.00	
Output power Variation - SAR drift measurement	E.2.9	12.02	R	$\sqrt{3}$	1	1	6.94	6.94	∞
SAR scaling	E6.5	0.0	R	$\sqrt{3}$	1	1	0.0	0.0	∞
Phantom and Tissue Parameters									
Phantom Uncertainty (Shape and thickness tolerances)	E.3.1	0.05	R	$\sqrt{3}$	1	1	0.03	0.03	∞
Uncertainty in SAR correction for deviations in permittivity and conductivity	E3.2	1.9	R	$\sqrt{3}$	1	0.84	1.10	0.90	∞
Liquid conductivity - deviation	E.3.2	5.00	R	$\sqrt{3}$	0.64	0.43	1.85	1.24	∞

from target value									
Liquid conductivity - measurement uncertainty	E.3.3	5.00	N	1	0.64	0.43	3.20	2.15	∞
Liquid permittivity - deviation from target value	E.3.2	0.37	R	$\sqrt{3}$	0.6	0.49	0.13	0.10	∞
Liquid permittivity - measurement uncertainty	E.3.3	10.00	N	1	0.6	0.49	6.00	4.90	∞
Combined Standard Uncertainty			RSS				12.98	12.53	
Expanded Uncertainty (95% Confidence interval)			K=2				25.32	24.43	

10.2 Uncertainty for System Performance Check

a	b	c	d	e= f(d,k)	f	g	h= c*f/e	i= c*g/e	k
Uncertainty Component	Sec.	Tol (+ - %)	Prob. Dist.	Div.	Ci (1g)	Ci (10g)	1g Ui (+ - %)	10g Ui (+ - %)	Vi
Measurement System									
Probe calibration	E.2.1	7.0	N	1	1	1	7.00	7.00	∞
Axial Isotropy	E.2.2	2.5	R	$\sqrt{3}$	$(1_Cp)^{1/2}$	$(1_Cp)^{1/2}$	1.02	1.02	∞
Hemispherical Isotropy	E.2.2	4.0	R	$\sqrt{3}$	$(Cp)^{1/2}$	$(Cp)^{1/2}$	1.63	1.63	∞
Boundary effect	E.2.3	1.0	R	$\sqrt{3}$	1	1	0.58	0.58	∞
Linearity	E.2.4	5.0	R	$\sqrt{3}$	1	1	2.89	2.89	∞
System detection limits	E.2.5	1.0	R	$\sqrt{3}$	1	1	0.58	0.58	∞
Modulation response	E.2.5	0	R	$\sqrt{3}$	0	0	0.0	0.0	∞
Readout Electronics	E.2.6	0.02	N	1	1	1	0.02	0.02	∞
Reponse Time	E.2.7	3.0	R	$\sqrt{3}$	1	1	1.73	1.73	∞
Integration Time	E.2.8	2.0	R	$\sqrt{3}$	1	1	1.15	1.15	∞
RF ambient Conditions – Noise	E.6.1	3.0	R	$\sqrt{3}$	1	1	1.73	1.73	∞
RF ambient Conditions - Reflections	E.6.1	3.0	R	$\sqrt{3}$	1	1	1.73	1.73	∞
Probe positioner Mechanical Tolerance	E.6.2	2.0	R	$\sqrt{3}$	1	1	1.15	1.15	∞
Probe positioning with respect to Phantom Shell	E.6.3	0.05	R	$\sqrt{3}$	1	1	0.03	0.03	∞
Extrapolation, interpolation and integration Algorithms for Max.	E.5.2	5.0	R	$\sqrt{3}$	1	1	2.89	2.89	∞

SAR Evaluation									
Dipole									
Dipole axis to liquid Distance	8,E.4.2	1.00	N	$\sqrt{3}$	1	1	0.58	0.58	N-1
Input power and SAR drift measurement	8,6.6.2	12.02	R	$\sqrt{3}$	1	1	6.94	6.94	∞
Deviation of experimental dipole from numerical dipole	E.6.4	5.5	R	$\sqrt{3}$	1	1	3.20	3.20	∞
Phantom and Tissue Parameters									
Phantom Uncertainty (Shape and thickness tolerances)	E.3.1	0.05	R	$\sqrt{3}$	1	1	0.03	0.03	∞
Uncertainty in SAR correction for deviations in permittivity and conductivity	E.3.2	2.0	R	$\sqrt{3}$	1	0.84	1.10	1.10	∞
Liquid conductivity - deviation from target value	E.3.2	5.00	R	$\sqrt{3}$	0.64	0.43	1.85	1.24	
Liquid conductivity - measurement uncertainty	E.3.3	5.00	N	1	0.64	0.43	3.20	2.15	
Liquid permittivity - deviation from target value	E.3.2	0.37	R	$\sqrt{3}$	0.6	0.49	0.13	0.10	
Liquid permittivity - measurement uncertainty	E.3.3	10.00	N	1	0.6	0.49	6.00	4.90	M
Combined Standard Uncertainty			RSS				12.00	11.50	
Expanded Uncertainty (95% Confidence interval)			K=2				23.39	22.43	

Annex A. Plots of System Performance Check

MEASUREMENT 1

For Head Liquid

Type: Validation measurement (Fast, 75.00 %)

Measurement duration: 7 minutes 21 seconds

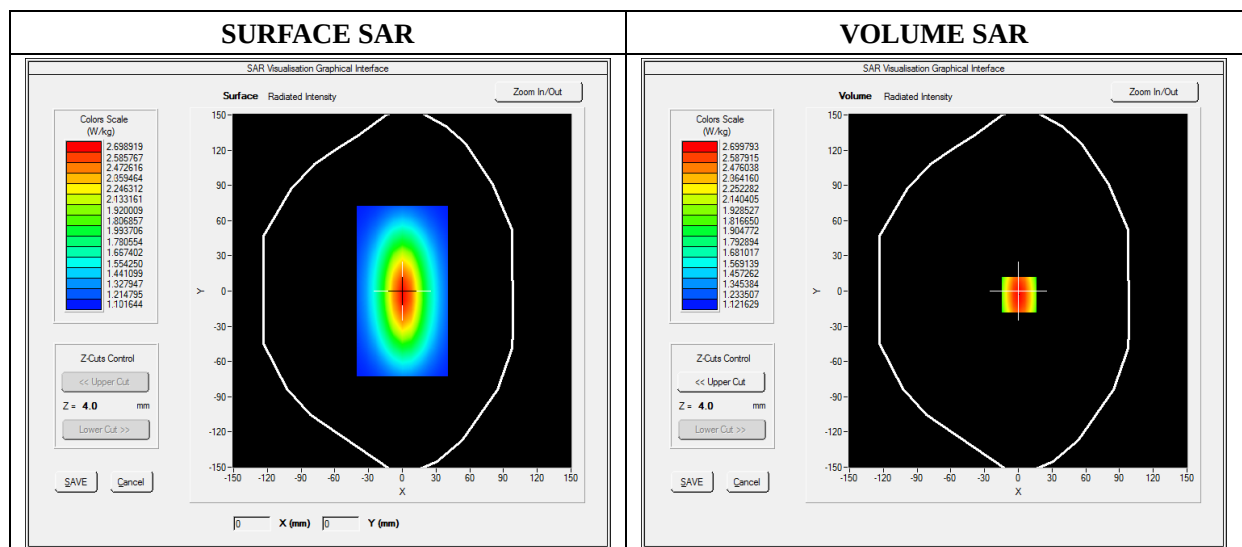
E-field Probe: SSE2 - SN 45/15 EPGO280; ConvF:2.39; Calibrated: 2019/07/08

A. Experimental conditions

Area Scan	dx=8mm dy=8mm
Zoom Scan	dx=8mm dy=8mm dz=5mm
Phantom	Validation plane
Device Position	Dipole
Band	CW750
Signal	Duty Cycle 1:1

B. SAR Measurement Results

Frequency (MHz)	750.000000
Relative Permittivity (real part)	41.320574
Conductivity (S/m)	0.862373
Power Variation (%)	0.038363
Ambient Temperature	21.1
Liquid Temperature	21.3

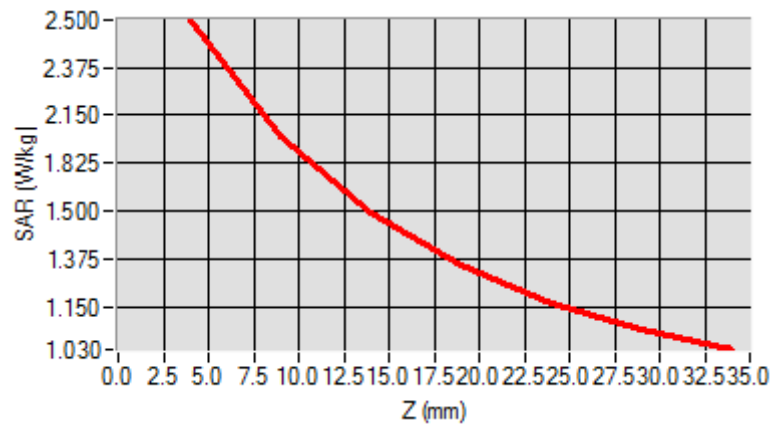


Maximum location: X=0.00, Y=0.00

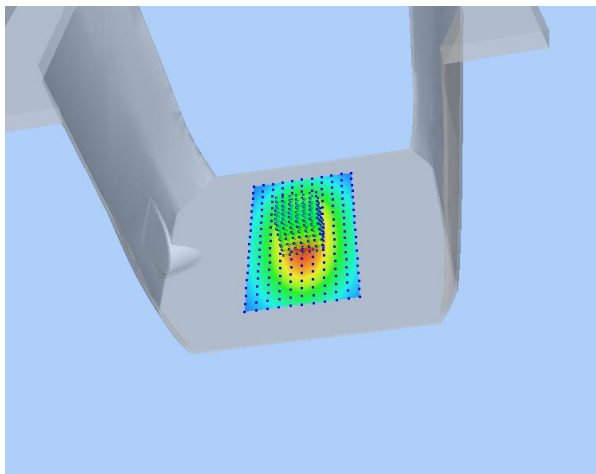
SAR 10g (W/Kg)	1.342744
SAR 1g (W/Kg)	2.164534

Z Axis Scan

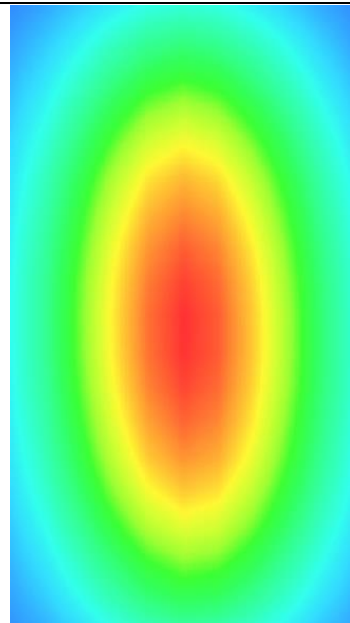
Z (mm)	0.00	4.00	9.00	14.00	19.00	24.00	29.00
SAR (W/Kg)	0.0000	2.3634	1.8023	1.4523	1.2514	1.1005	1.0245



3D screen shot



Hot spot position



MEASUREMENT 2

For Head Liquid

Type: Validation measurement (Fast, 75.00 %)

Measurement duration: 7 minutes 21 seconds

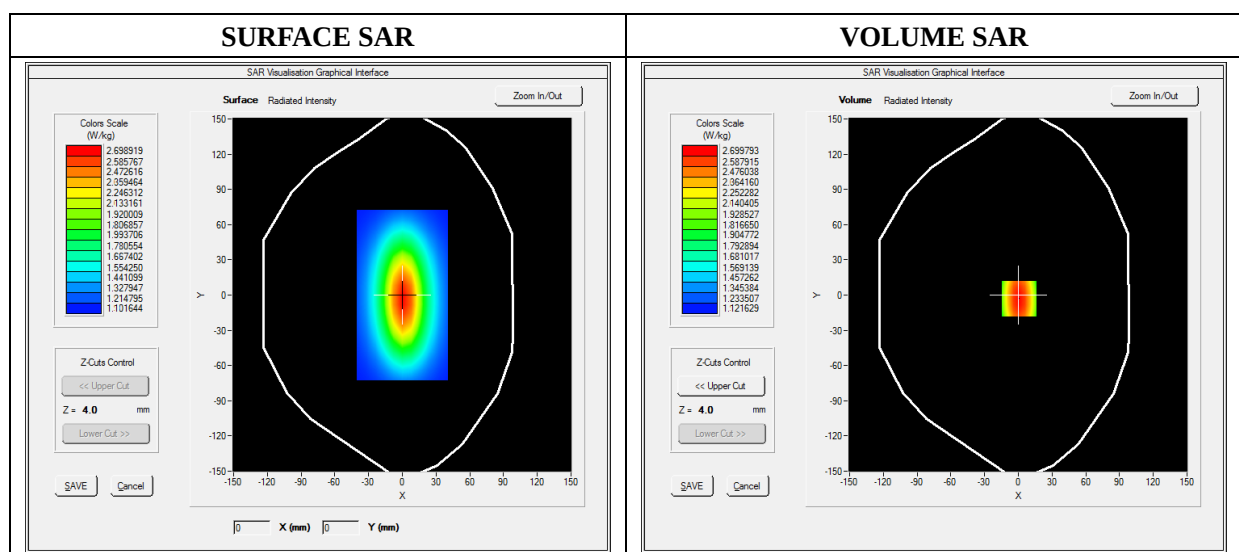
E-field Probe: SSE2 - SN 45/15 EPGO280; ConvF:2.39; Calibrated: 2019/07/08

A. Experimental conditions

Area Scan	dx=8mm dy=8mm
Zoom Scan	dx=8mm dy=8mm dz=5mm
Phantom	Validation plane
Device Position	Dipole
Band	CW835
Signal	Duty Cycle 1:1

B. SAR Measurement Results

Frequency (MHz)	835.000000
Relative Permittivity (real part)	41.110245
Conductivity (S/m)	0.871245
Power Variation (%)	0.038437
Ambient Temperature	21.1
Liquid Temperature	21.3

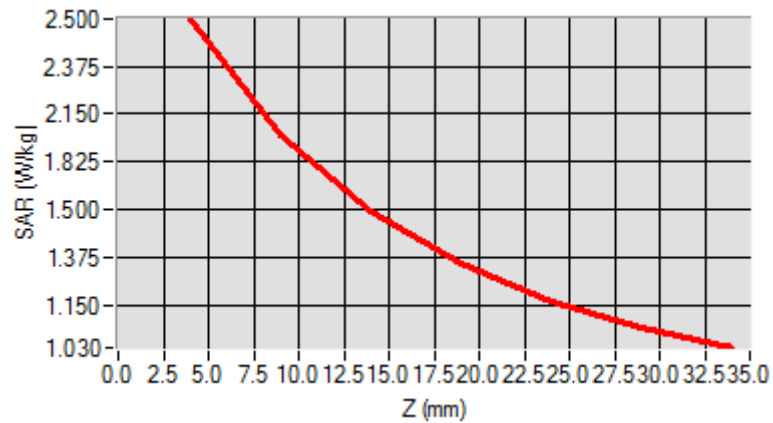


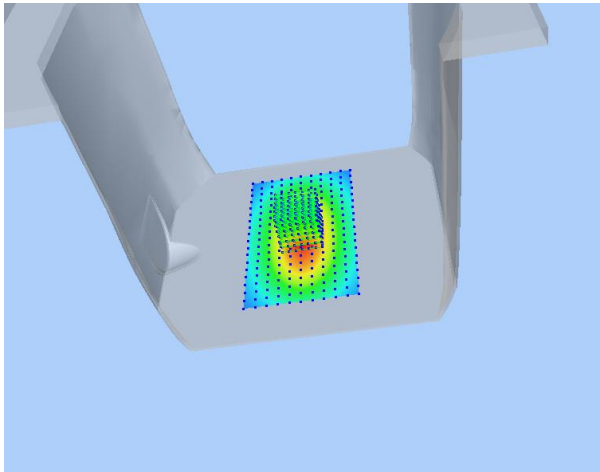
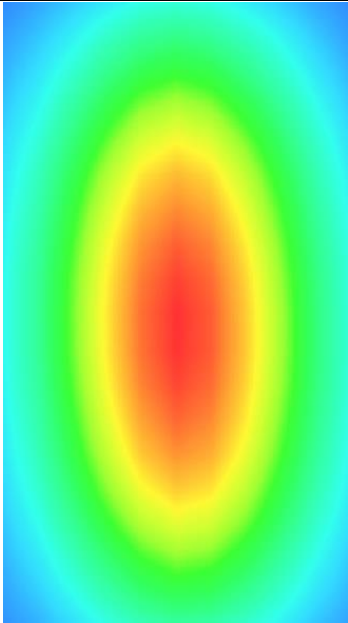
Maximum location: X=0.00, Y=0.00

SAR 10g (W/Kg)	1.449489
SAR 1g (W/Kg)	2.411253

Z Axis Scan

Z (mm)	0.00	4.00	9.00	14.00	19.00	24.00	29.00
SAR (W/Kg)	0.0000	2.4900	1.8942	1.4811	1.3541	1.1123	1.0539



3D screen shot	Hot spot position
	

MEASUREMENT 3

For Head Liquid

Type: Validation measurement (Fast, 75.00 %)

Measurement duration: 12 minutes 21 seconds

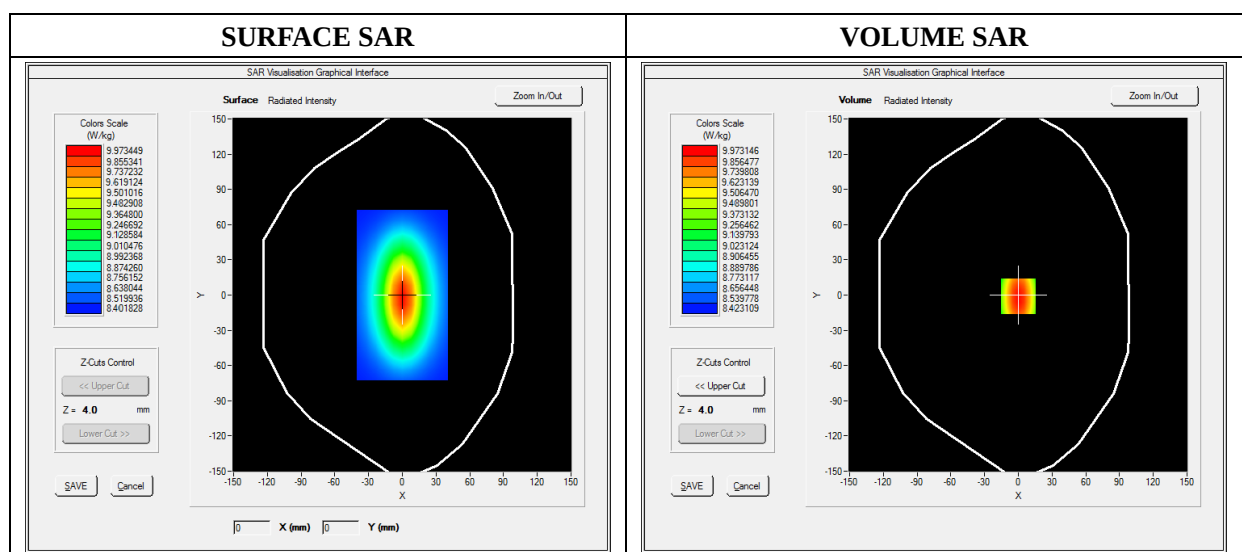
E-field Probe: SSE2 - SN 45/15 EPGO280; ConvF:2.39; Calibrated: 2019/07/08

A. Experimental conditions

Area Scan	dx=8mm dy=8mm
Zoom Scan	dx=8mm dy=8mm dz=5mm
Phantom	Validation plane
Device Position	Dipole
Band	CW1800
Signal	CW (Crest factor: 1.0)

B. SAR Measurement Results

Frequency (MHz)	1800.000000
Relative Permittivity (real part)	39.024890
Conductivity (S/m)	1.371250
Power Variation (%)	1.401232
Ambient Temperature	21.1
Liquid Temperature	21.2

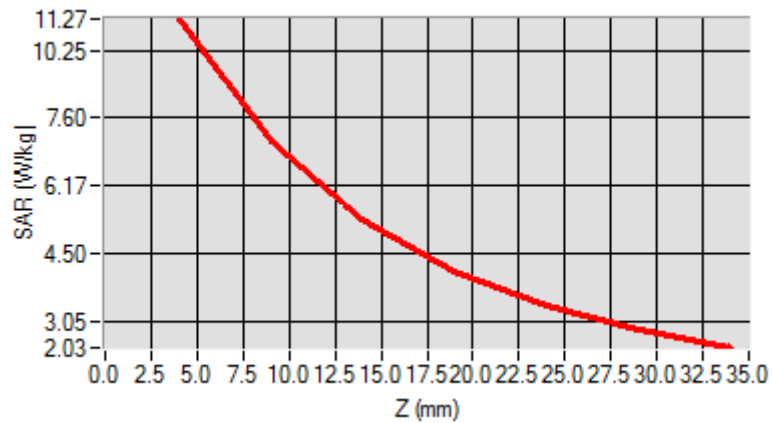


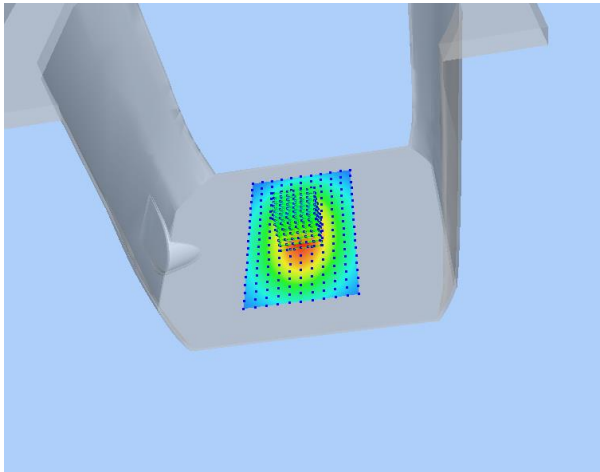
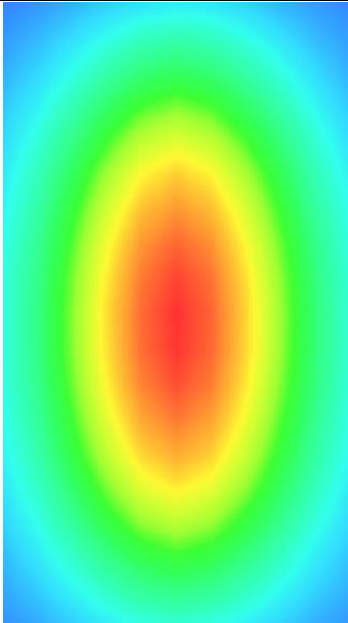
Maximum location: X=0.00, Y=0.00

SAR 10g (W/Kg)	5.171252
SAR 1g (W/Kg)	9.611250

Z Axis Scan

Z (mm)	0.00	4.00	9.00	14.00	19.00	24.00	29.00
SAR (W/Kg)	0.0000	10.3455	7.1125	5.1026	3.425	3.0242	2.1125



3D screen shot	Hot spot position
	

MEASUREMENT 4

For Head Liquid

Type: Validation measurement (Fast, 75.00 %)

Measurement duration: 12 minutes 21 seconds

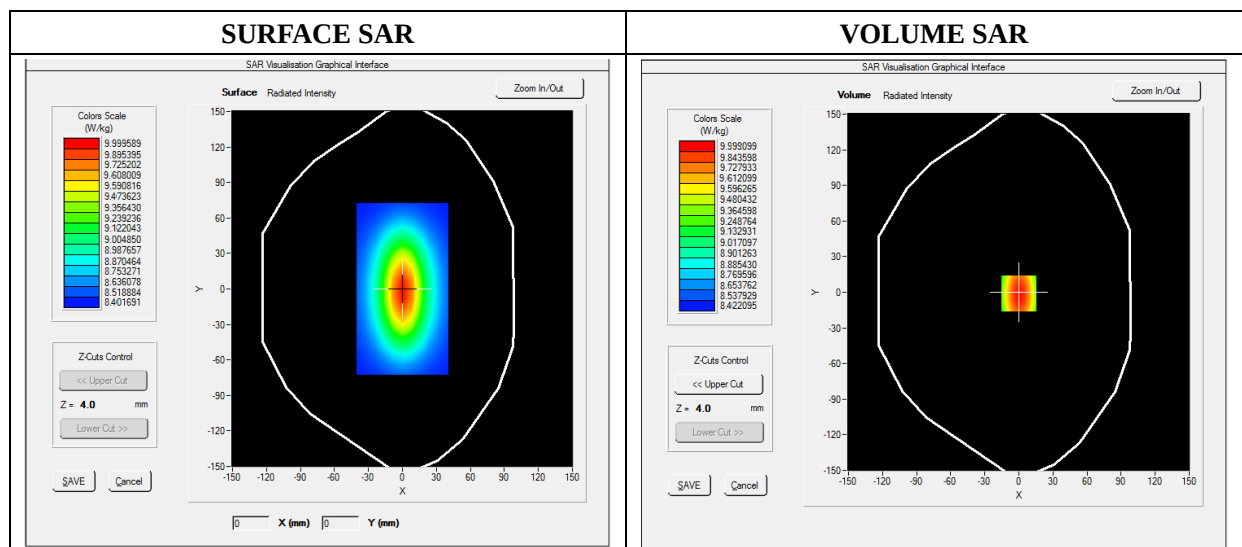
E-field Probe: SSE2 - SN 45/15 EPGO280; ConvF:2.39; Calibrated: 2019/07/08

A. Experimental conditions

Area Scan	dx=8mm dy=8mm
Zoom Scan	dx=8mm dy=8mm dz=5mm
Phantom	Validation plane
Device Position	Dipole
Band	CW1900
Signal	Duty Cycle 1:1

B. SAR Measurement Results

Frequency (MHz)	1900.000000
Relative Permittivity (real part)	38.560124
Conductivity (S/m)	1.380369
Power Variation (%)	1.022540
Ambient Temperature	21.1
Liquid Temperature	21.3

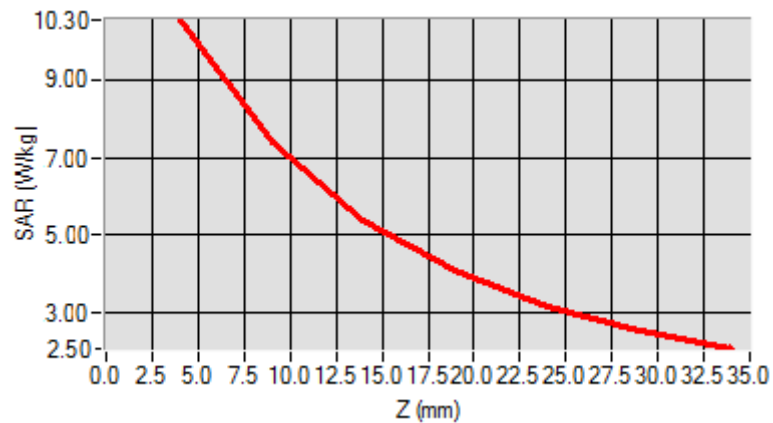


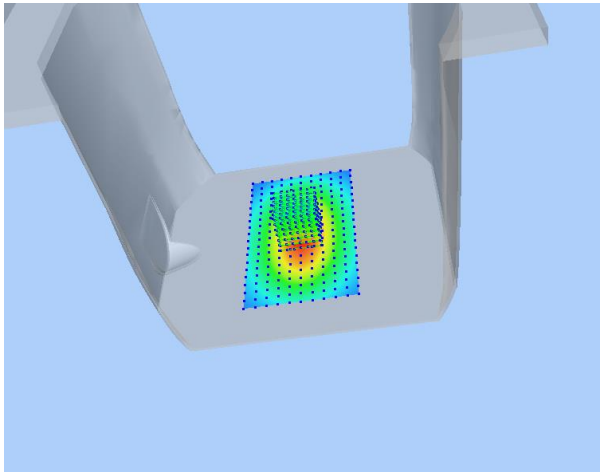
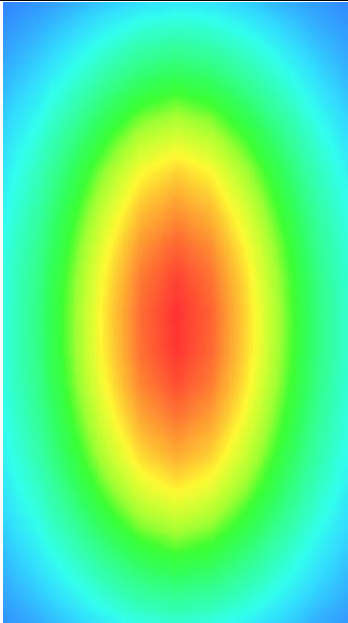
Maximum location: X=0.00, Y=0.00

SAR 10g (W/Kg)	5.174526
SAR 1g (W/Kg)	9.913214

Z Axis Scan

Z (mm)	0.00	4.00	9.00	14.00	19.00	24.00	29.00
SAR (W/Kg)	0.0000	10.2354	6.8400	5.0121	4.1189	3.0522	2.8424



3D screen shot	Hot spot position
	

MEASUREMENT 5

For Head Liquid

Type: Validation measurement (Fast, 75.00 %)

Measurement duration: 12 minutes 21 seconds

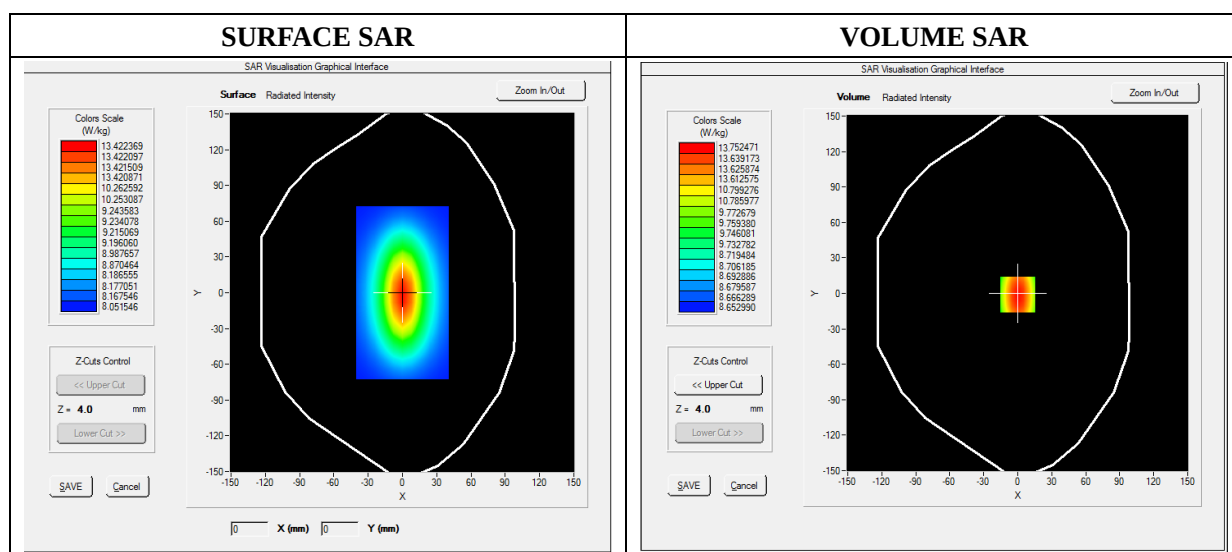
E-field Probe: SSE2 - SN 45/15 EPGO280; ConvF:2.39; Calibrated: 2019/07/08

A. Experimental conditions

Area Scan	dx=8mm dy=8mm
Zoom Scan	dx=8mm dy=8mm dz=5mm
Phantom	Validation plane
Device Position	Dipole
Band	CW2450
Signal	Duty Cycle 1:1

B. SAR Measurement Results

Frequency (MHz)	2450.000000
Relative Permittivity (real part)	38.153660
Conductivity (S/m)	1.740236
Power Variation (%)	1.141452
Ambient Temperature	21.1
Liquid Temperature	21.2

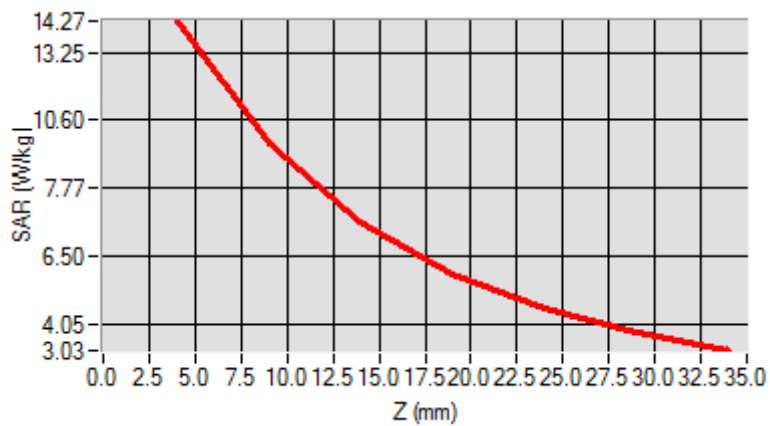


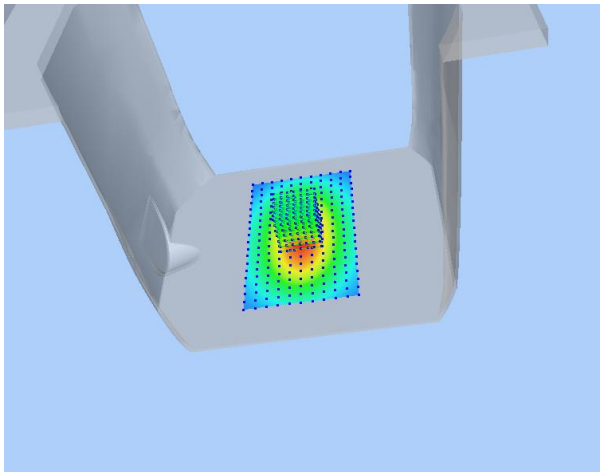
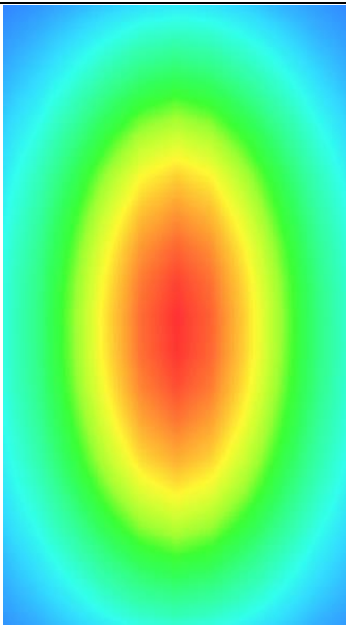
Maximum location: X=0.00, Y=0.00

SAR 10g (W/Kg)	6.020427
SAR 1g (W/Kg)	13.452457

Z Axis Scan

Z (mm)	0.00	4.00	9.00	14.00	19.00	24.00	29.00
SAR (W/Kg)	0.0000	14.1034	12.0012	10.2624	7.4715	5.9022	4.5114



3D screen shot	Hot spot position
	

MEASUREMENT 6

For Head Liquid

Type: Validation measurement (Fast, 75.00 %)

Measurement duration: 12 minutes 21 seconds

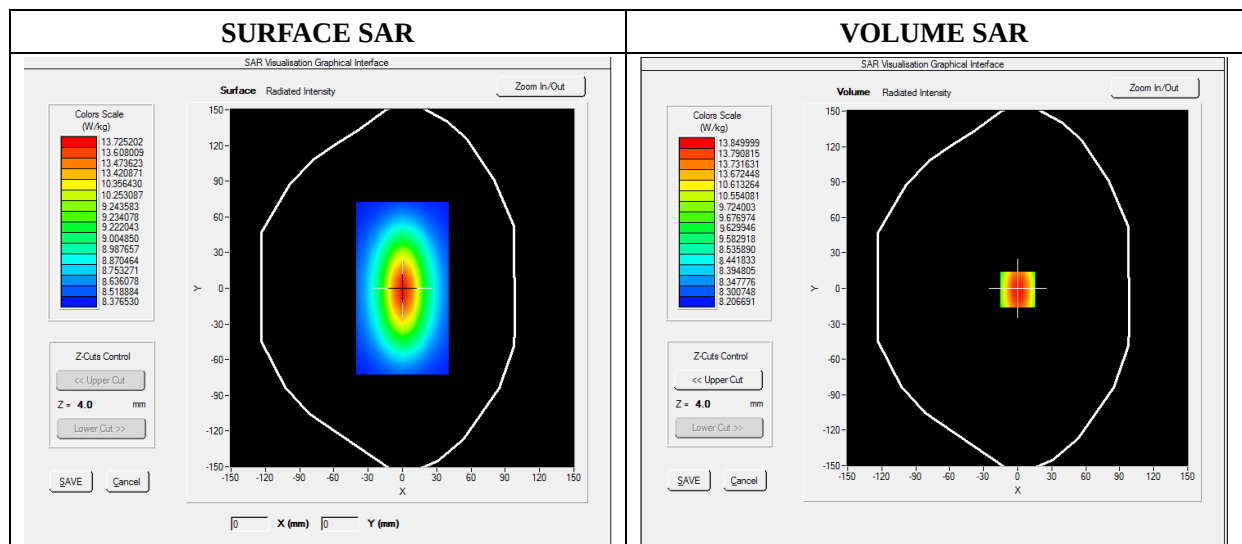
E-field Probe: SSE2 - SN 45/15 EPGO280; ConvF:2.39; Calibrated: 2019/07/08

A. Experimental conditions

Area Scan	dx=8mm dy=8mm
Phantom	Validation plane
Device Position	Dipole
Band	CW2600
Signal	Duty Cycle 1:1

B. SAR Measurement Results

Frequency (MHz)	2600.000000
Relative Permittivity (real part)	38.631092
Conductivity (S/m)	1.930182
Power Variation (%)	1.028221
Ambient Temperature	21.1
Liquid Temperature	21.2



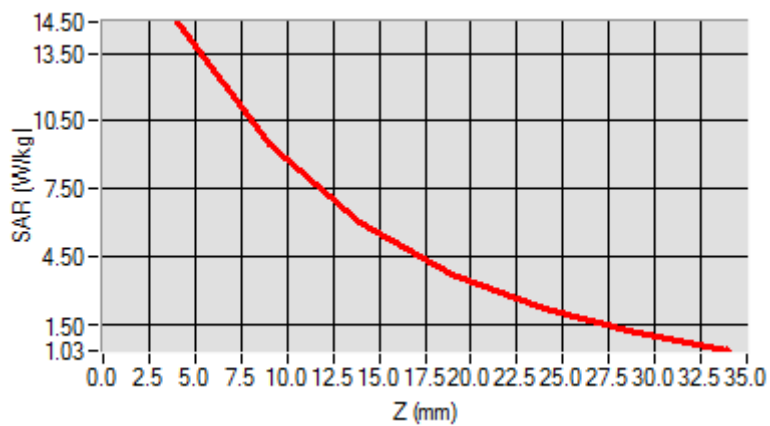
Maximum location: X=0.00, Y=0.00

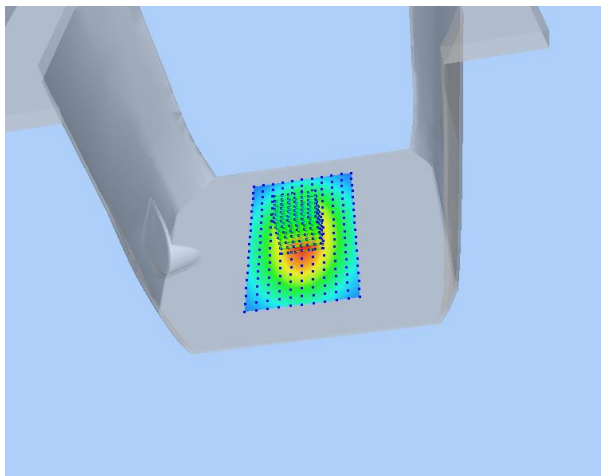
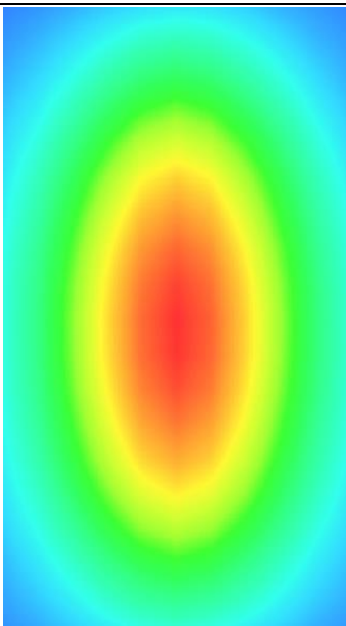
SAR 10g (W/Kg)	8.270822
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SAR 1g (W/Kg)	13.670282
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Z Axis Scan

Z (mm)	0.00	4.00	9.00	14.00	19.00	24.00	29.00
SAR (W/Kg)	0.0000	14.0426	12.1354	10.2965	7.4854	5.9354	4.5186



3D screen shot	Hot spot position
	

MEASUREMENT 7

For Body Liquid

Type: Validation measurement (Fast, 75.00 %)

Measurement duration: 12 minutes 21 seconds

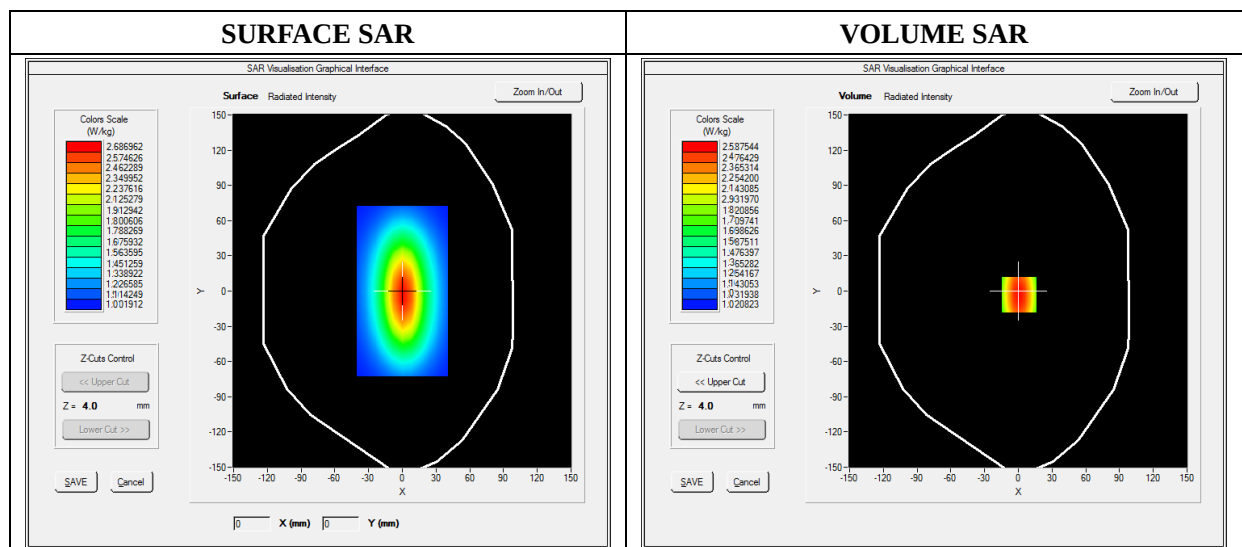
E-field Probe: SSE2 - SN 45/15 EPGO280; ConvF:2.39; Calibrated: 2019/07/08

A. Experimental conditions

Area Scan	dx=8mm dy=8mm
Zoom Scan	dx=8mm dy=8mm dz=5mm
Phantom	Validation plane
Device Position	Dipole
Band	CW750
Signal	Duty Cycle 1:1

B. SAR Measurement Results

Frequency (MHz)	750.000000
Relative Permittivity (real part)	54.964739
Conductivity (S/m)	0.931048
Power Variation (%)	0.034745
Ambient Temperature	21.1
Liquid Temperature	21.3

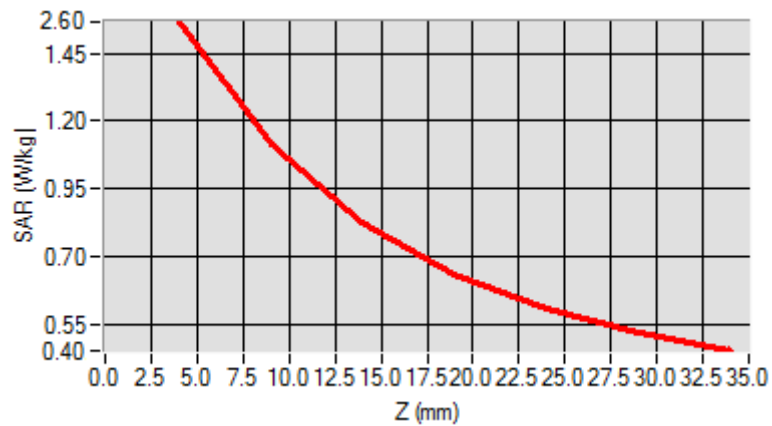


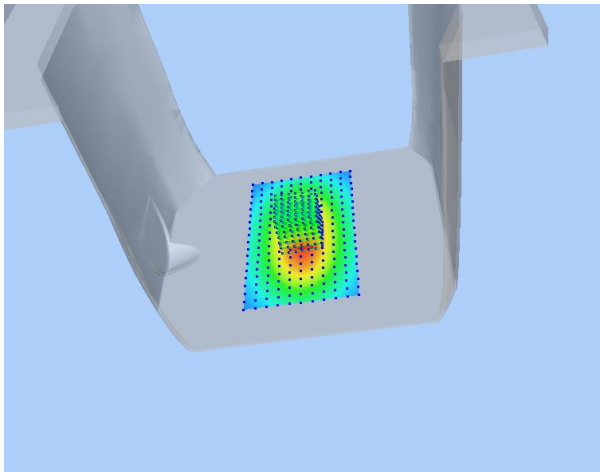
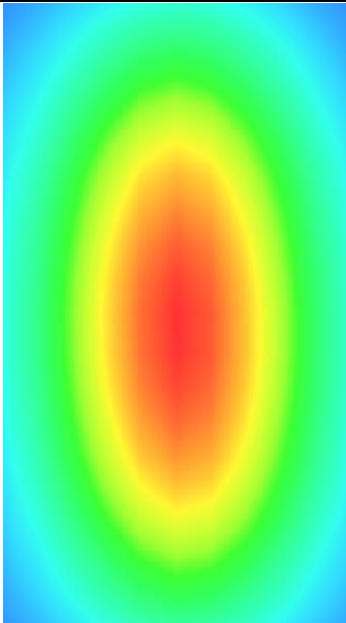
Maximum location: X=0.00, Y=0.00

SAR 10g (W/Kg)	1.300865
SAR 1g (W/Kg)	2.124211

Z Axis Scan

Z (mm)	0.00	4.00	9.00	14.00	19.00	24.00	29.00
SAR (W/Kg)	0.0000	2.5132	1.1087	0.8214	0.5160	0.4875	0.4864



3D screen shot	Hot spot position
	

MEASUREMENT 8

For Body Liquid

Type: Validation measurement (Fast, 75.00 %)

Measurement duration: 12 minutes 21 seconds

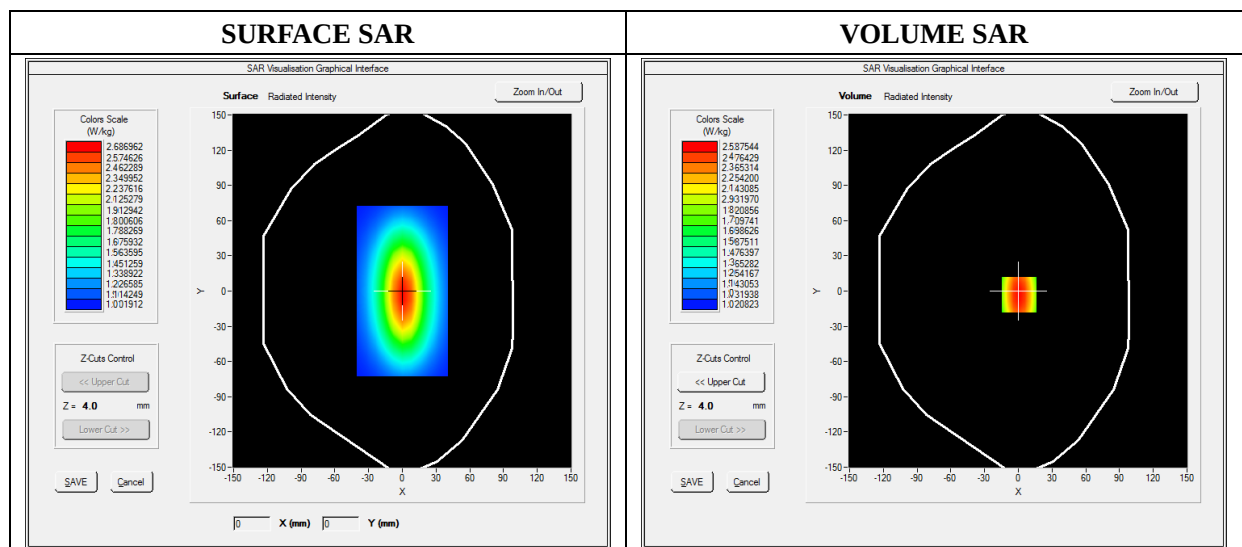
E-field Probe: SSE2 - SN 45/15 EPGO280; ConvF:2.39; Calibrated: 2019/07/08

A. Experimental conditions

Area Scan	dx=8mm dy=8mm
Zoom Scan	dx=8mm dy=8mm dz=5mm
Phantom	Validation plane
Device Position	Dipole
Band	CW835
Signal	Duty Cycle 1:1

B. SAR Measurement Results

Frequency (MHz)	835.000000
Relative Permittivity (real part)	54.851214
Conductivity (S/m)	0.951454
Power Variation (%)	0.901472
Ambient Temperature	21.1
Liquid Temperature	21.3

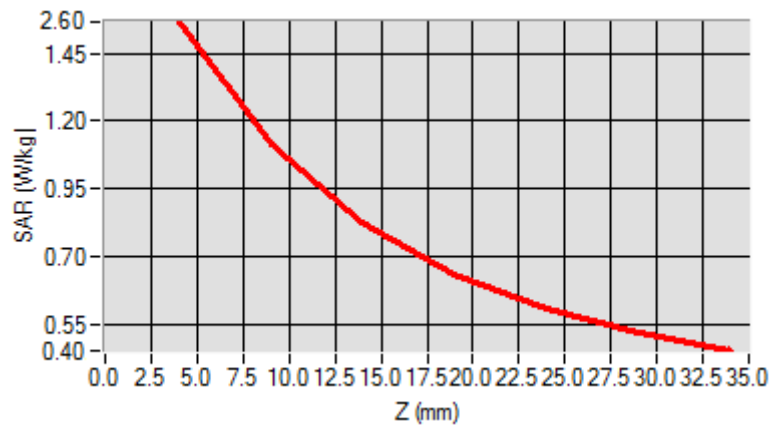


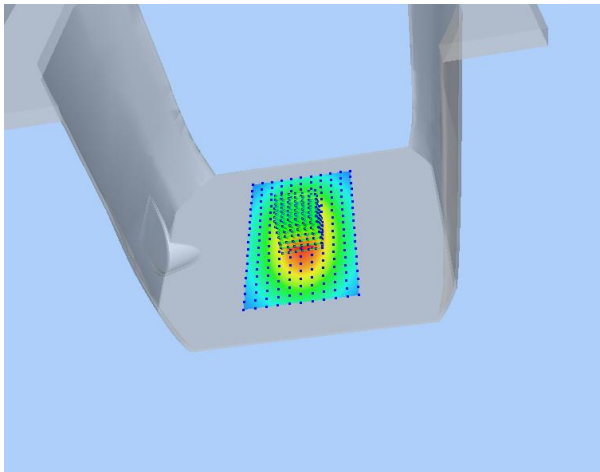
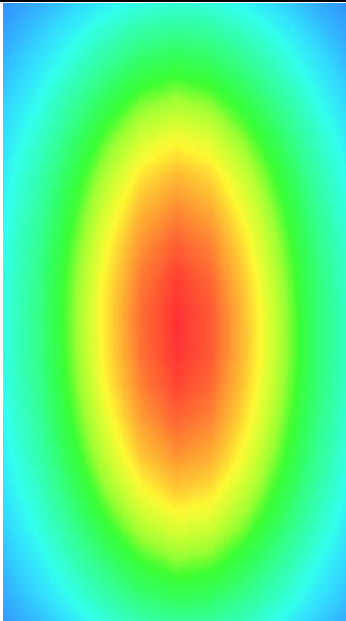
Maximum location: X=0.00, Y=0.00

SAR 10g (W/Kg)	1.528956
SAR 1g (W/Kg)	2.354211

Z Axis Scan

Z (mm)	0.00	4.00	9.00	14.00	19.00	24.00	29.00
SAR (W/Kg)	0.0000	2.5789	1.1300	0.8795	0.5940	0.5011	0.5100



3D screen shot	Hot spot position
	

MEASUREMENT 9

For Body Liquid

Type: Validation measurement (Fast, 75.00 %)

Measurement duration: 12 minutes 21 seconds

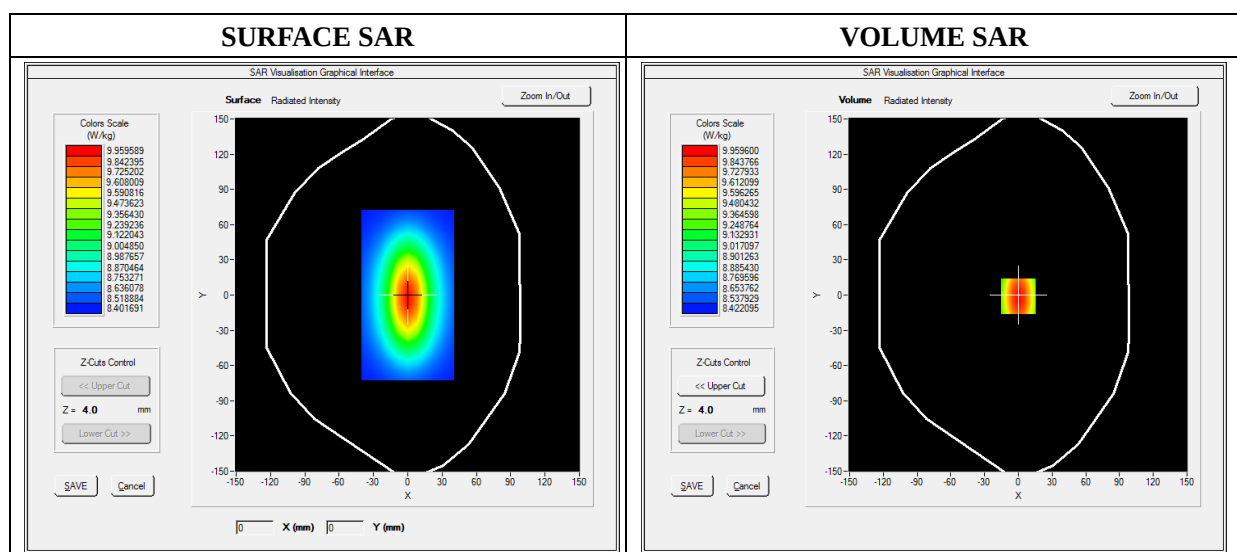
E-field Probe: SSE2 - SN 45/15 EPGO280; ConvF:2.39; Calibrated: 2019/07/08

A. Experimental conditions

Area Scan	dx=8mm dy=8mm
Zoom Scan	dx=8mm dy=8mm dz=5mm
Phantom	Validation plane
Device Position	Dipole
Band	CW1800
Signal	CW (Crest factor: 1.0)

B. SAR Measurement Results

Frequency (MHz)	1800.000000
Relative Permittivity (real part)	51.224510
Conductivity (S/m)	1.461261
Power Variation (%)	0.845690
Ambient Temperature	21.1
Liquid Temperature	21.2

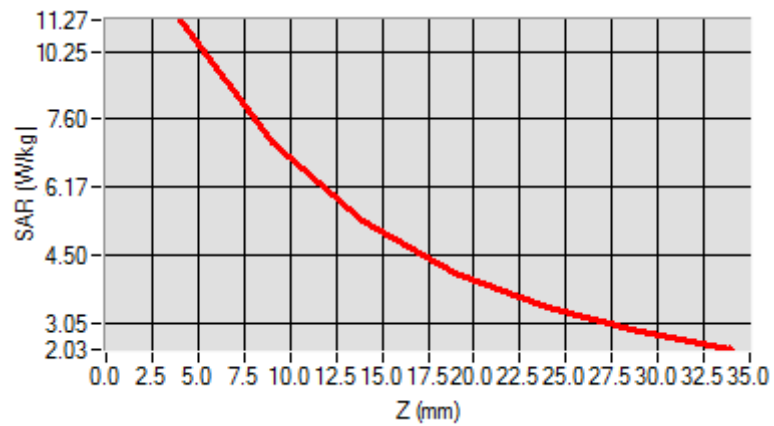


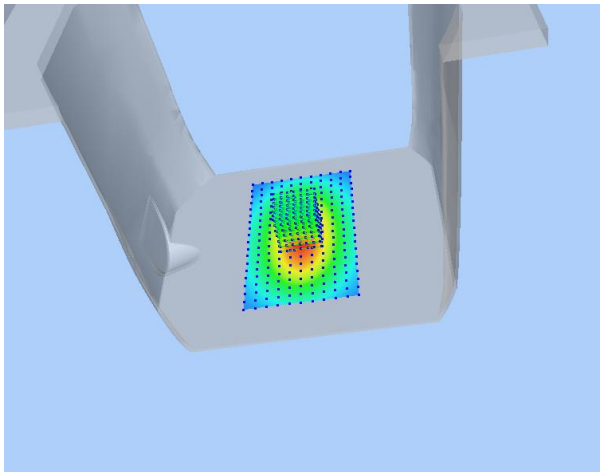
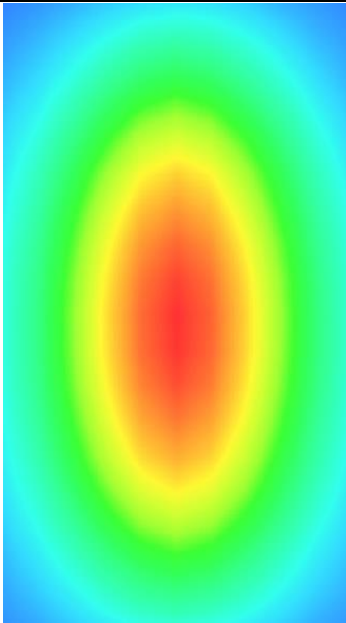
Maximum location: X=0.00, Y=0.00

SAR 10g (W/Kg)	5.221202
SAR 1g (W/Kg)	9.582560

Z Axis Scan

Z (mm)	0.00	4.00	9.00	14.00	19.00	24.00	29.00
SAR (W/Kg)	0.0000	11.2425	9.4123	8.0345	6.9125	6.3092	3.9460



3D screen shot	Hot spot position
	

MEASUREMENT 10

For Body Liquid

Type: Validation measurement (Fast, 75.00 %)

Measurement duration: 12 minutes 21 seconds

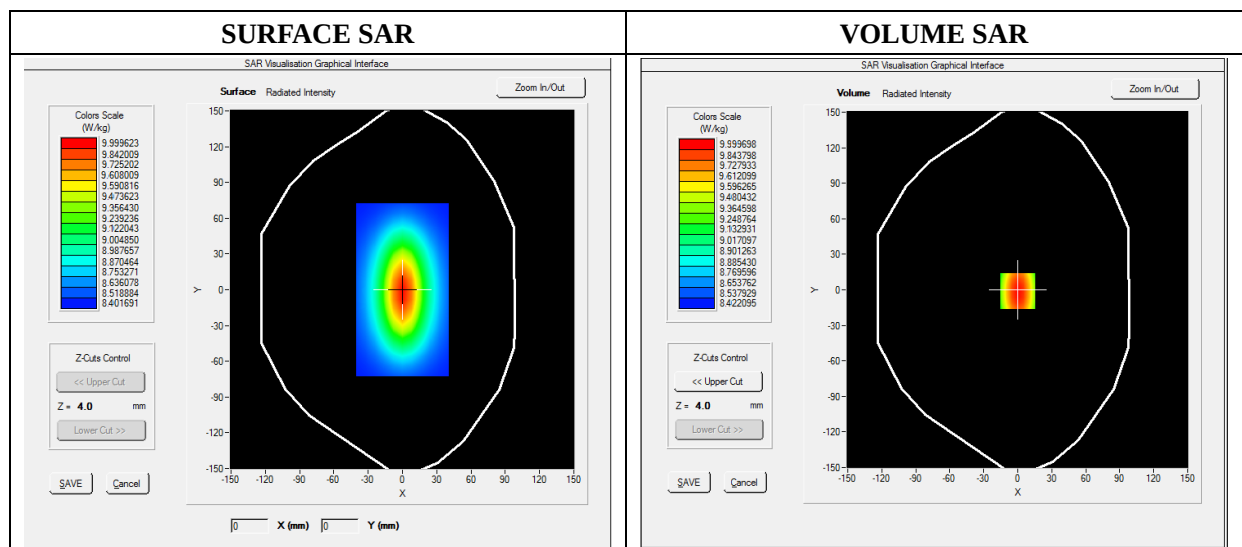
E-field Probe: SSE2 - SN 45/15 EPGO280; ConvF:2.39; Calibrated: 2019/07/08

A. Experimental conditions

Area Scan	dx=8mm dy=8mm
Zoom Scan	dx=8mm dy=8mm dz=5mm
Phantom	Validation plane
Device Position	Dipole
Band	CW1900
Signal	Duty Cycle 1:1

B. SAR Measurement Results

Frequency (MHz)	1900.000000
Relative Permittivity (real part)	52.420415
Conductivity (S/m)	1.501966
Power Variation (%)	0.541872
Ambient Temperature	21.1
Liquid Temperature	21.3

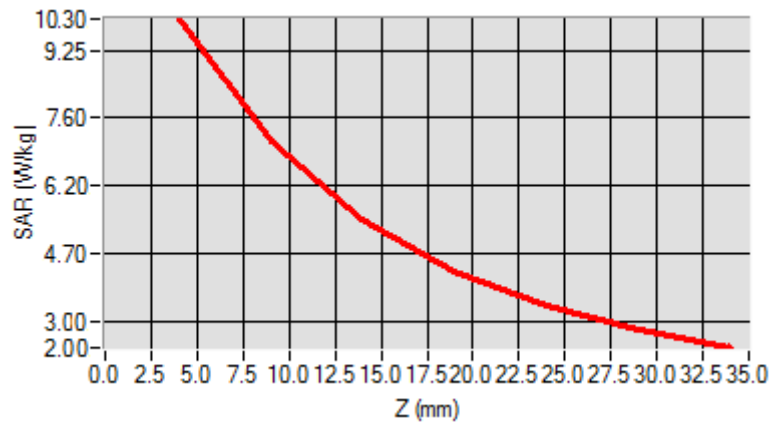


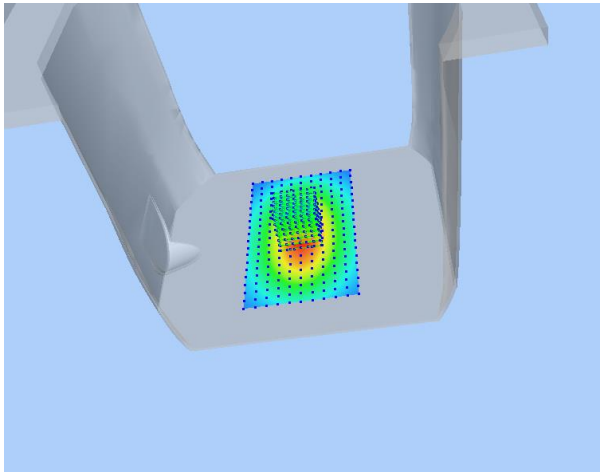
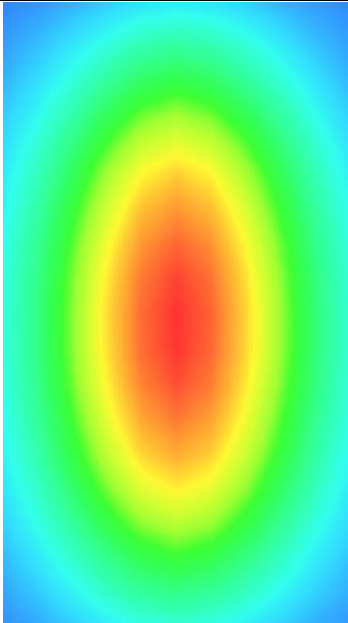
Maximum location: X=0.00, Y=0.00

SAR 10g (W/Kg)	5.134651
SAR 1g (W/Kg)	9.781550

Z Axis Scan

Z (mm)	0.00	4.00	9.00	14.00	19.00	24.00	29.00
SAR (W/Kg)	0.0000	10.2031	6.43001	4.9011	4.5325	3.1201	2.5024



3D screen shot	Hot spot position
	

MEASUREMENT 11

For Body Liquid

Type: Validation measurement (Fast, 75.00 %)

Measurement duration: 12 minutes 21 seconds

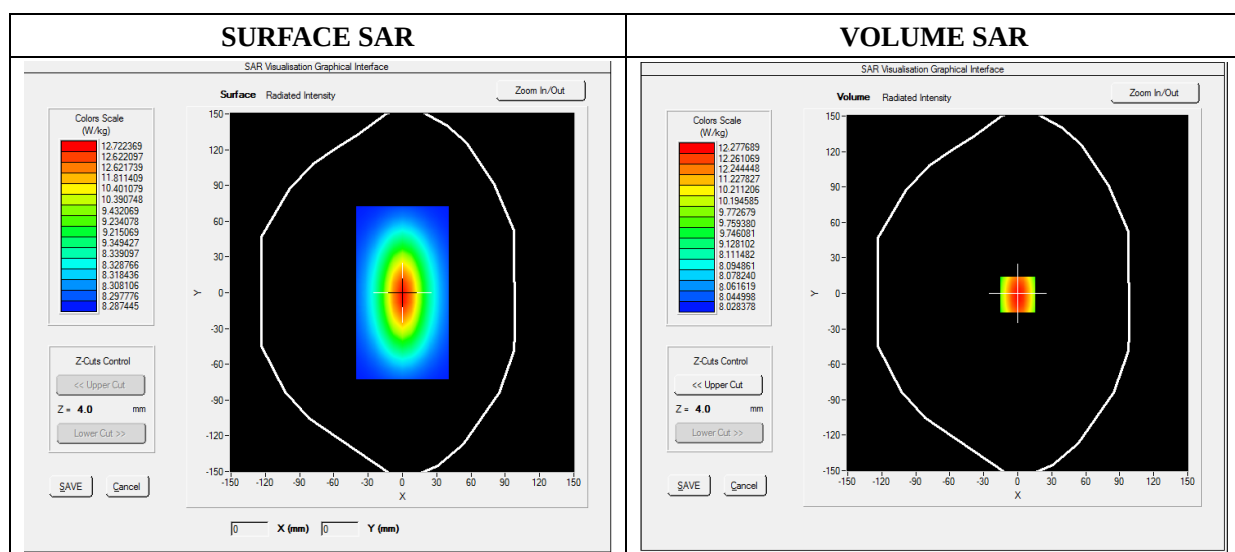
E-field Probe: SSE2 - SN 45/15 EPGO280; ConvF:2.39; Calibrated: 2019/07/08

A. Experimental conditions

Area Scan	dx=8mm dy=8mm
Zoom Scan	dx=8mm dy=8mm dz=5mm
Phantom	Validation plane
Device Position	Dipole
Band	CW2450
Signal	Duty Cycle 1:1

B. SAR Measurement Results

Frequency (MHz)	2450.000000
Relative Permittivity (real part)	52.010212
Conductivity (S/m)	1.910255
Power Variation (%)	1.369745
Ambient Temperature	21.1
Liquid Temperature	21.2

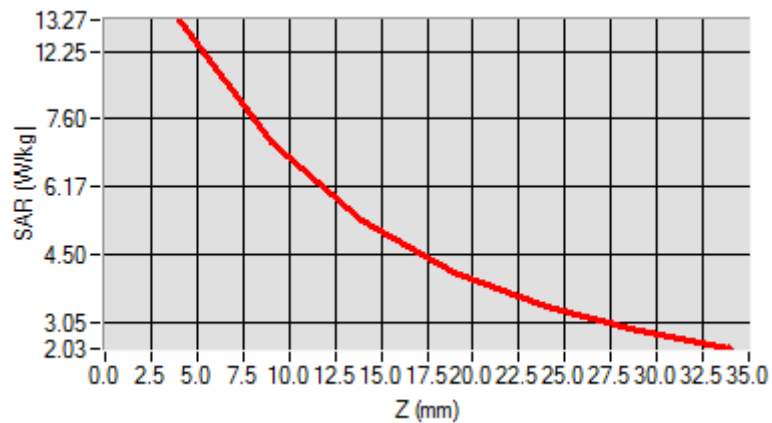


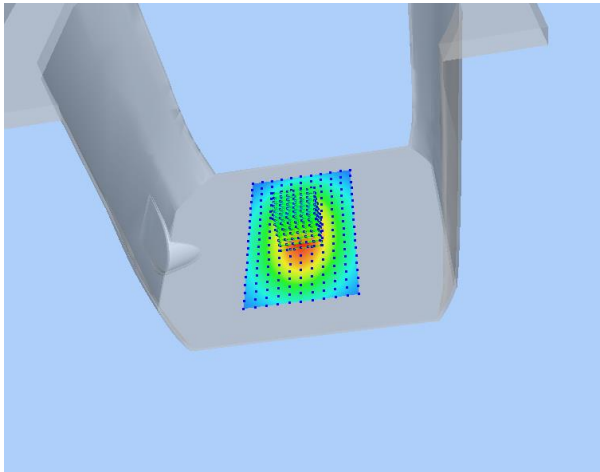
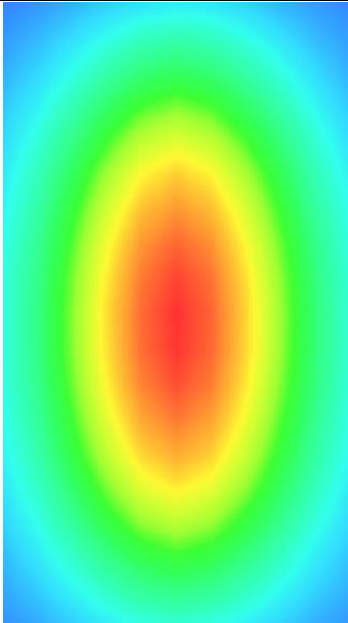
Maximum location: X=0.00, Y=0.00

SAR 10g (W/Kg)	6.119522
SAR 1g (W/Kg)	12.592360

Z Axis Scan

Z (mm)	0.00	4.00	9.00	14.00	19.00	24.00	29.00
SAR (W/Kg)	0.0000	13.1911	11.7951	9.2945	8.5400	6.3712	4.6225



3D screen shot	Hot spot position
	

MEASUREMENT 12

For Body Liquid

Type: Validation measurement (Fast, 75.00 %)

Measurement duration: 12 minutes 21 seconds

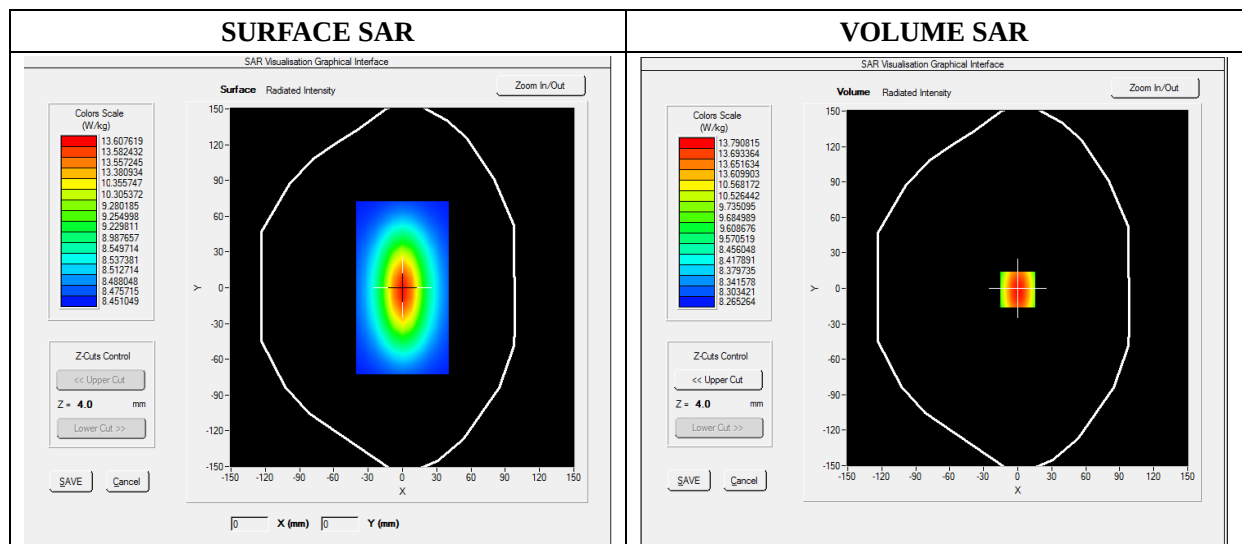
E-field Probe: SSE2 - SN 45/15 EPGO280; ConvF:2.39; Calibrated: 2019/07/08

A. Experimental conditions

Area Scan	dx=8mm dy=8mm
Phantom	Validation plane
Device Position	Dipole
Band	CW2600
Signal	Duty Cycle 1:1

B. SAR Measurement Results

Frequency (MHz)	2600.000000
Relative Permittivity (real part)	52.241202
Conductivity (S/m)	2.120943
Power Variation (%)	1.038832
Ambient Temperature	21.1
Liquid Temperature	21.2

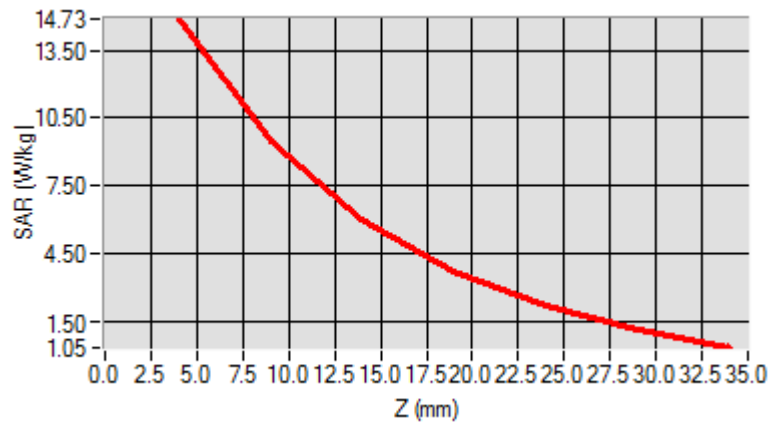


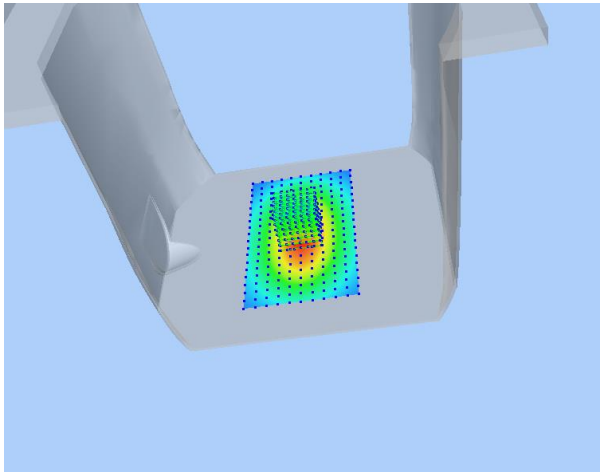
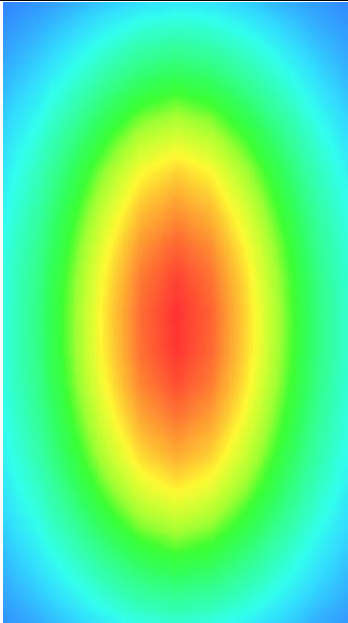
Maximum location: X=0.00, Y=0.00

SAR 10g (W/Kg)	6.083781
SAR 1g (W/Kg)	13.430481

Z Axis Scan

Z (mm)	0.00	4.00	9.00	14.00	19.00	24.00	29.00
SAR (W/Kg)	0.0000	13.6473	11.8441	9.3627	8.5782	6.4357	4.6342



3D screen shot	Hot spot position
	

Annex B. Plots of SAR Measurement

<u>TYPE</u>	<u>BAND</u>	<u>PARAMETERS</u>
Watch	GSM850	<u>Measurement 1:</u> Flat Plane with Front side(Near to Mouth) device position on Low Channel in GSM mode
Watch	GSM1900	<u>Measurement 2:</u> Flat Plane with Front side(Near to Mouth) device position on Low Channel in GSM mode
Watch	WCDMA1900	<u>Measurement 3:</u> Flat Plane with Front side(Near to Mouth) device position on Low Channel in WCDMA mode
Watch	WCDMA1700	<u>Measurement 6:</u> Flat Plane with Front side(Near to Mouth) device position on Middle Channel in WCDMA mode
Watch	WCDMA850	<u>Measurement 7:</u> Flat Plane with Front side(Near to Mouth) device position on Low Channel in WCDMA mode
Watch	LTE Band 2	<u>Measurement 10:</u> Flat Plane with Front side(Near to Mouth) device position on High Channel in LTE mode
Watch	LTE Band 4	<u>Measurement 14:</u> Flat Plane with Front side(Near to Mouth) device position on High Channel in LTE mode
Watch	LTE Band 5	<u>Measurement 18:</u> Flat Plane with Front side(Near to Mouth) device position on High Channel in LTE mode
Watch	LTE Band 7	<u>Measurement 20:</u> Flat Plane with Front side(Near to Mouth) device position on Middle Channel in LTE mode
Watch	LTE Band 17	<u>Measurement 22:</u> Flat Plane with Front side(Near to Mouth) device position on High Channel in LTE mode
Watch	WiFi_802.11b	<u>Measurement 24:</u> Flat Plane with Front side(Near to Mouth) device position on Low Channel in 802.11b mode
Watch	GPRS850_4TX	<u>Measurement 25:</u> Flat Plane with Back device position on Middle Channel in GPRS mode
Watch	GPRS1900_4TX	<u>Measurement 28:</u> Flat Plane with Back device position on Middle Channel in GPRS mode
Watch	WCDMA1900	<u>Measurement 29:</u> Flat Plane with Back side device position on Low Channel in WCDMA mode
Watch	WCDMA1700	<u>Measurement 32:</u> Flat Plane with Back side device position on Middle Channel in WCDMA mode
Watch	WCDMA850	<u>Measurement 33:</u> Flat Plane with Back device position on Low Channel in WCDMA mode
Watch	LTE Band 2	<u>Measurement 35:</u> Flat Plane with Back device position on Middle Channel in LTE mode
Watch	LTE Band 4	<u>Measurement 39:</u> Flat Plane with Back device position on Low Channel in LTE mode
Watch	LTE Band 5	<u>Measurement 42:</u> Flat Plane with Back device position on High Channel in LTE mode

Watch	LTE Band 7	<u>Measurement 44:</u> Flat Plane with Back device position on Middle Channel in LTE mode
Watch	LTE Band 17	<u>Measurement 46:</u> Flat Plane with Back device position on High Channel in LTE mode
Watch	WiFi_802.11b	<u>Measurement 50:</u> Flat Plane with Back side device position on Low Channel in 802.11b mode
<i>Remark: SAR plot is showed the highest measured SAR in each exposure configuration, wireless mode and frequency band combination.</i>		

MEASUREMENT 1

Type: Phone measurement (Complete)

Date of measurement: 2020-04-28

Measurement duration: 11 minutes 48 seconds

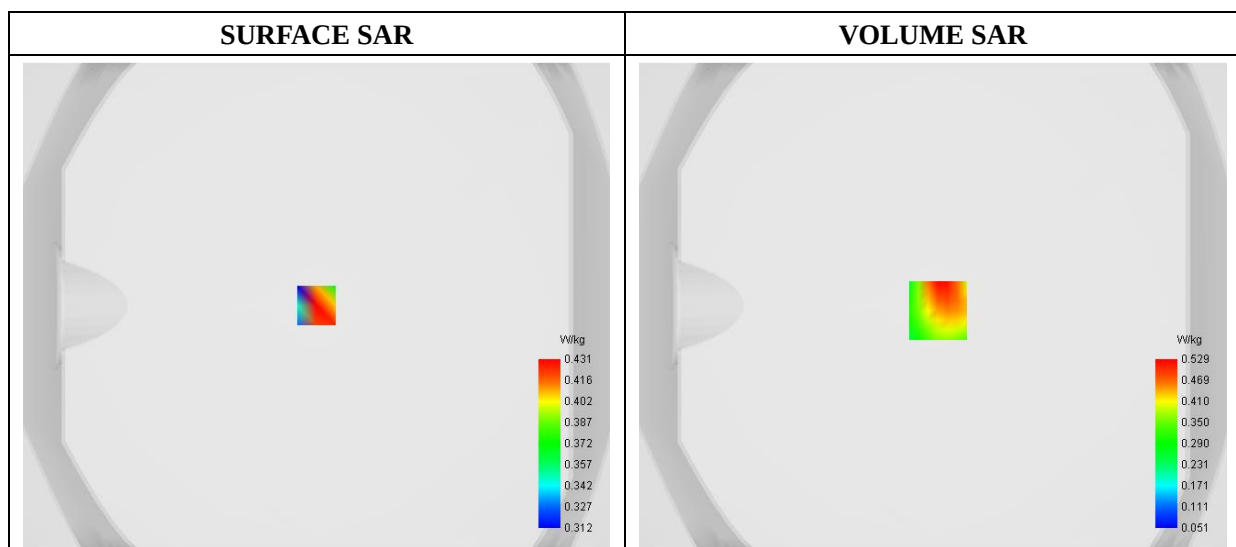
E-field Probe: SSE2 - SN 45/15 EPGO280; ConvF:2.39; Calibrated: 2019/07/08

A. Experimental conditions

Area Scan	dx=8mm dy=8mm
Zoom Scan	dx=8mm dy=8mm dz=5mm
Phantom	Flat Plane
Device Position	Front(Near to Mouth)
Band	GSM850
Channels	Low
Signal	TDMA (Crest factor: 8.0)

B. SAR Measurement Results

Frequency (MHz)	824.200000
Relative Permittivity (real part)	41.110245
Conductivity (S/m)	0.871245
Power Variation (%)	1.144536
Ambient Temperature	21.1
Liquid Temperature	21.3



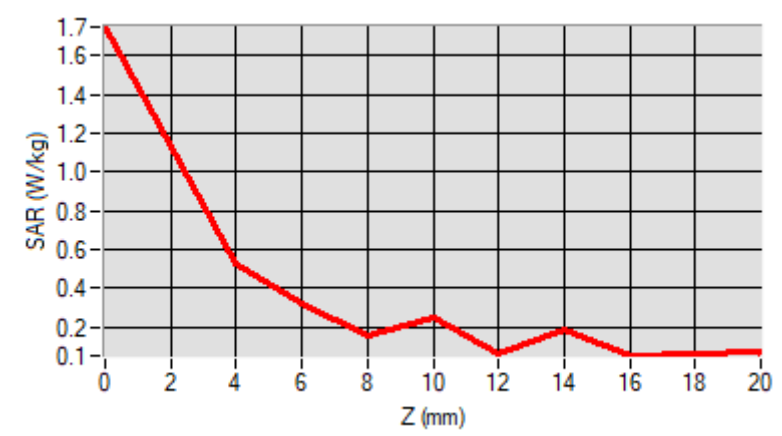
Maximum location: X=2.00, Y=-2.00

D. SAR 1g & 10g

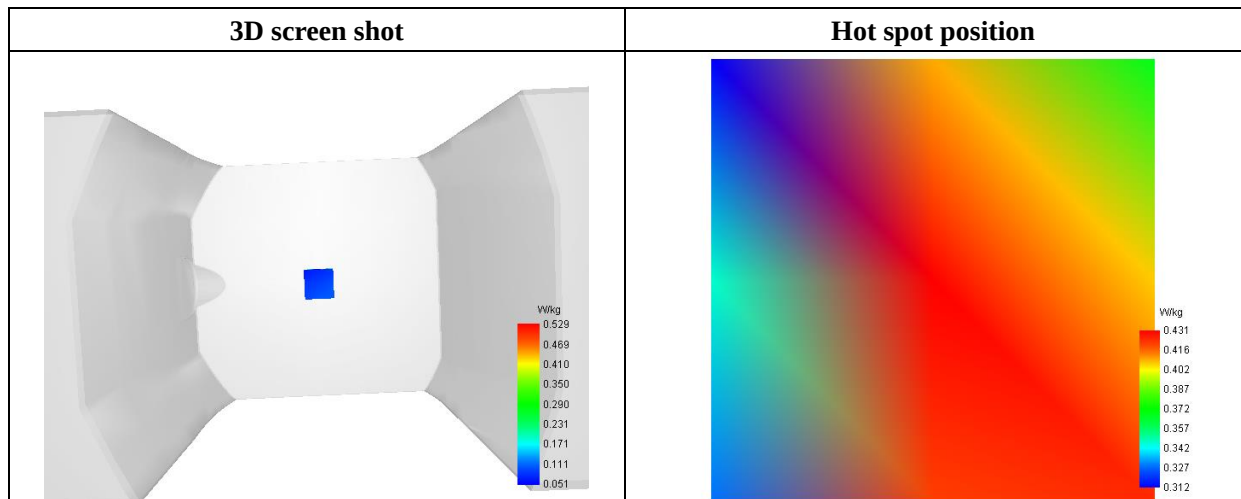
SAR 10g (W/Kg)	0.268222
SAR 1g (W/Kg)	0.508624

E. Z Axis Scan

Z (mm)	0.00	4.00	6.00	8.00	10.00	12.00	14.00	16.00	18.00
SAR (W/Kg)	1.7485	0.5292	0.3211	0.1588	0.2460	0.0627	0.1822	0.0529	0.0613



F. 3D Image



MEASUREMENT 2

Type: Phone measurement (Complete)

Date of measurement: 2020-04-30

Measurement duration: 11 minutes 48 seconds

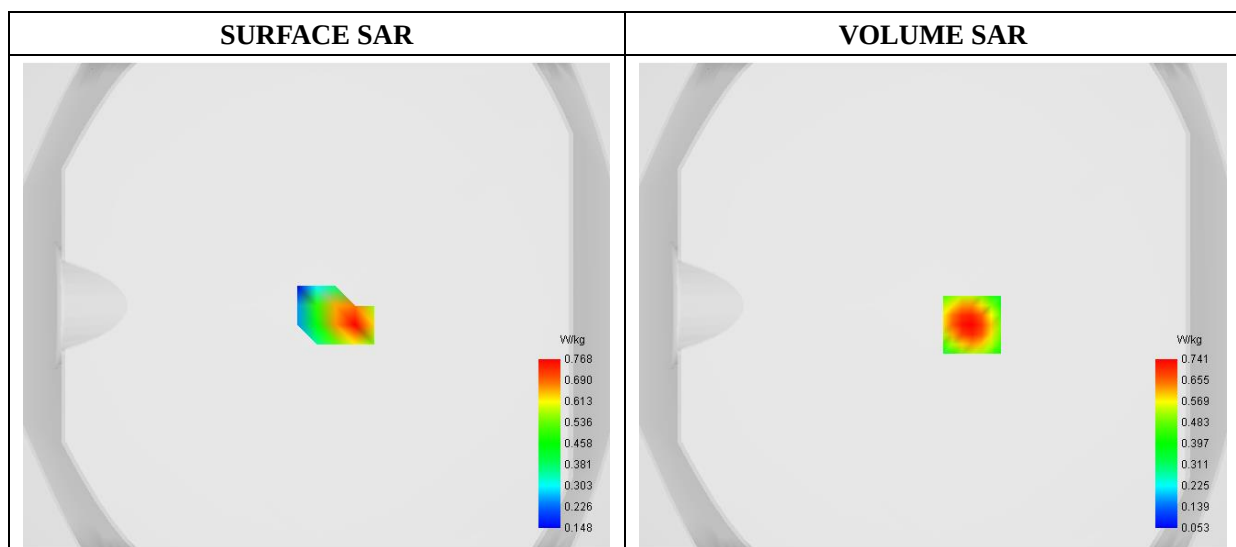
E-field Probe: SSE2 - SN 45/15 EPGO280; ConvF:2.39; Calibrated: 2019/07/08

A. Experimental conditions

Area Scan	dx=8mm dy=8mm
Zoom Scan	dx=8mm dy=8mm dz=5mm
Phantom	Flat Plane
Device Position	Front(Near to Mouth)
Band	GSM1900
Channels	Low
Signal	TDMA (Crest factor: 8.0)

B. SAR Measurement Results

Frequency (MHz)	1850.200000
Relative Permittivity (real part)	38.560124
Conductivity (S/m)	1.380369
Power Variation (%)	1.442440
Ambient Temperature	21.1
Liquid Temperature	21.3



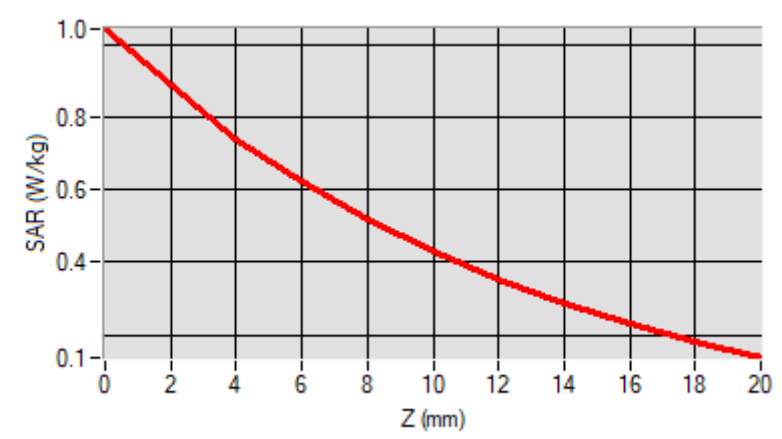
Maximum location: X=16.00, Y=-8.00

D. SAR 1g & 10g

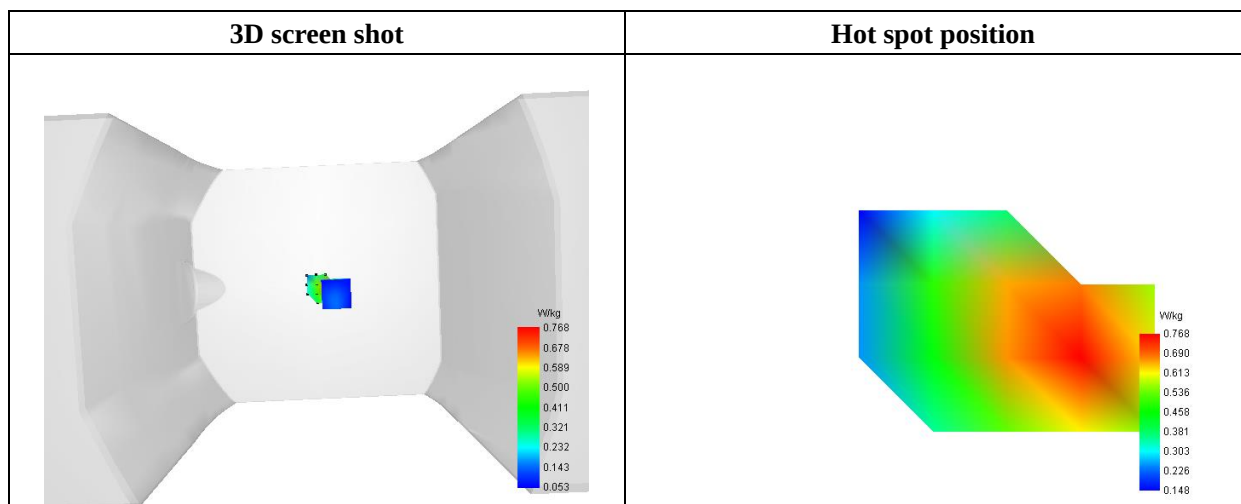
SAR 10g (W/Kg)	0.384530
SAR 1g (W/Kg)	0.686953

E. Z Axis Scan

Z (mm)	0.00	4.00	6.00	8.00	10.00	12.00	14.00	16.00	18.00
SAR (W/Kg)	1.0417	0.7407	0.6210	0.5175	0.4289	0.3528	0.2871	0.2302	0.1808



F. 3D Image



MEASUREMENT 3

Type: Phone measurement (Complete)

Date of measurement: 2020-04-30

Measurement duration: 12 minutes 3 seconds

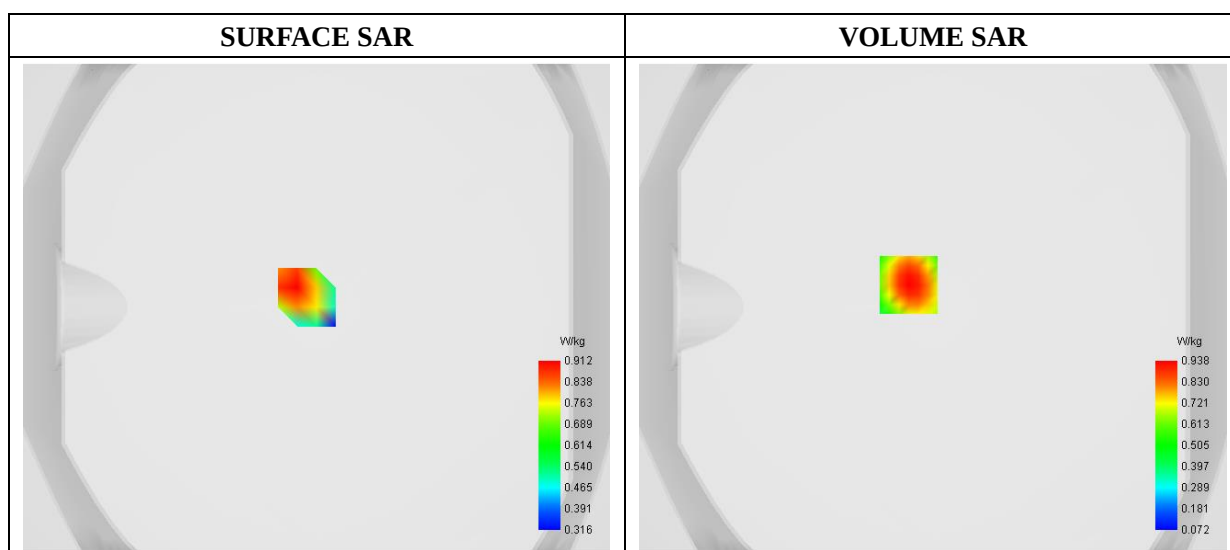
E-field Probe: SSE2 - SN 45/15 EPGO280; ConvF:2.39; Calibrated: 2019/07/08

A. Experimental conditions

Area Scan	dx=8mm dy=8mm
Zoom Scan	dx=8mm dy=8mm dz=5mm
Phantom	Flat Plane
Device Position	Front(Near to Mouth)
Band	WCDMA1900_RMC
Channels	Low
Signal	Duty Cycle 1:1

B. SAR Measurement Results

Frequency (MHz)	1852.400000
Relative Permittivity (real part)	38.560124
Conductivity (S/m)	1.380369
Power Variation (%)	1.524540
Ambient Temperature	21.1
Liquid Temperature	21.3



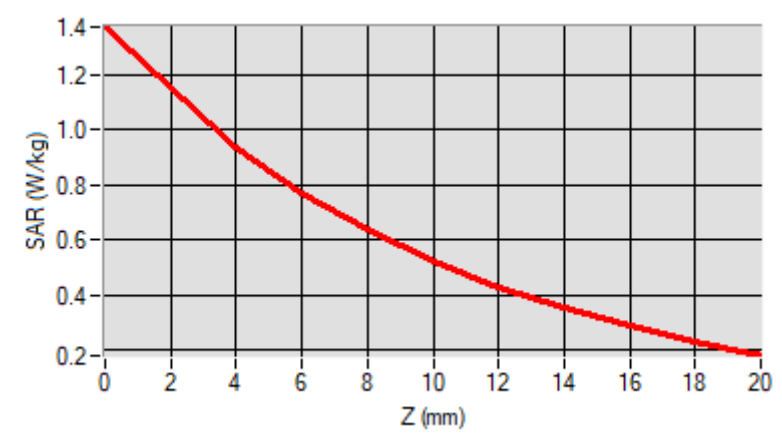
Maximum location: X=-10.00, Y=9.00

D. SAR 1g & 10g

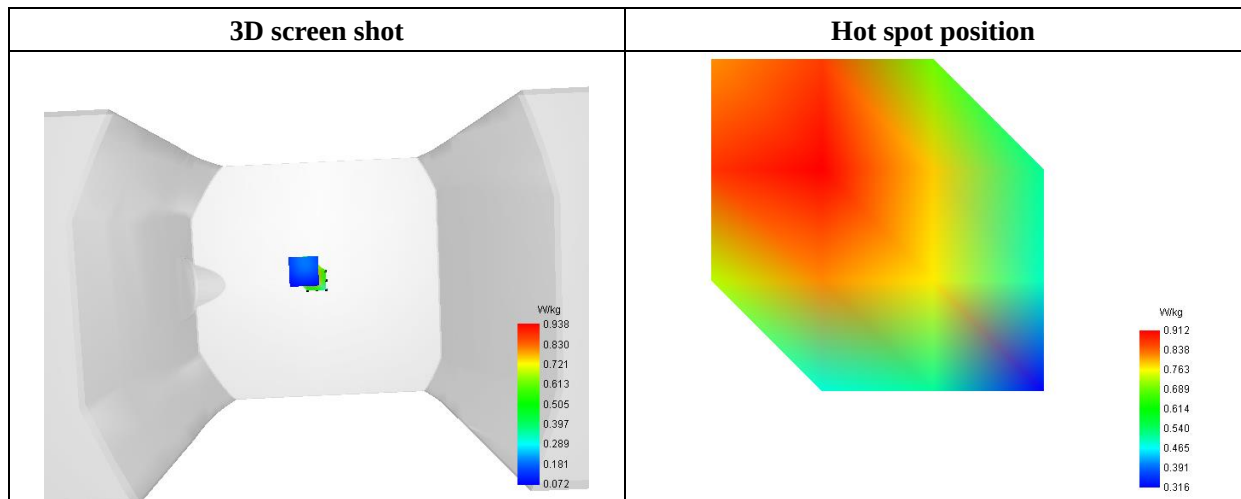
SAR 10g (W/Kg)	0.503363
SAR 1g (W/Kg)	0.899516

E. Z Axis Scan

Z (mm)	0.00	4.00	6.00	8.00	10.00	12.00	14.00	16.00	18.00
SAR (W/Kg)	1.3752	0.9377	0.7734	0.6364	0.5237	0.4305	0.3524	0.2862	0.2293



F. 3D Image



MEASUREMENT 6

Type: Phone measurement (Complete)

Date of measurement: 2020-05-12

Measurement duration: 12 minutes 3 seconds

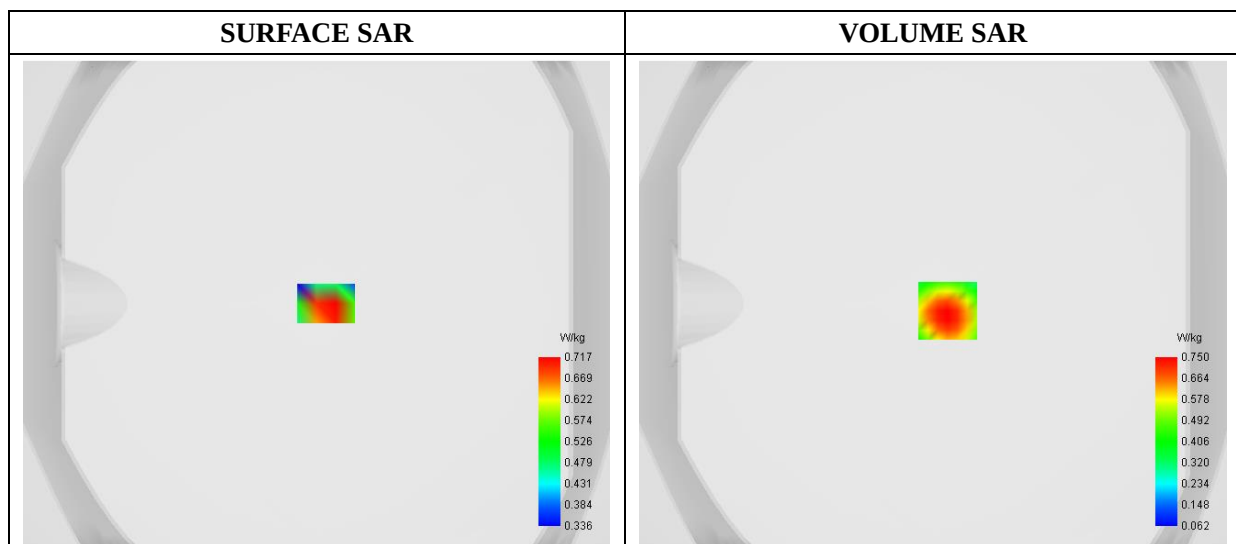
E-field Probe: SSE2 - SN 45/15 EPGO280; ConvF:2.39; Calibrated: 2019/07/08

A. Experimental conditions

Area Scan	dx=8mm dy=8mm
Zoom Scan	dx=8mm dy=8mm dz=5mm
Phantom	Flat Plane
Device Position	Front(Near to Mouth)
Band	WCDMA1700_RMC
Channels	Low
Signal	Duty Cycle 1:1

B. SAR Measurement Results

Frequency (MHz)	1732.400000
Relative Permittivity (real part)	51.224510
Conductivity (S/m)	1.461261
Power Variation (%)	2.341221
Ambient Temperature	21.1
Liquid Temperature	21.3



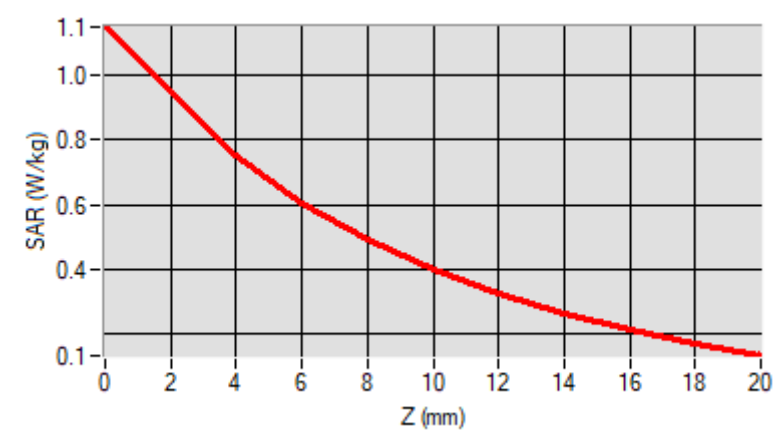
Maximum location: X=6.00, Y=-3.00

D. SAR 1g & 10g

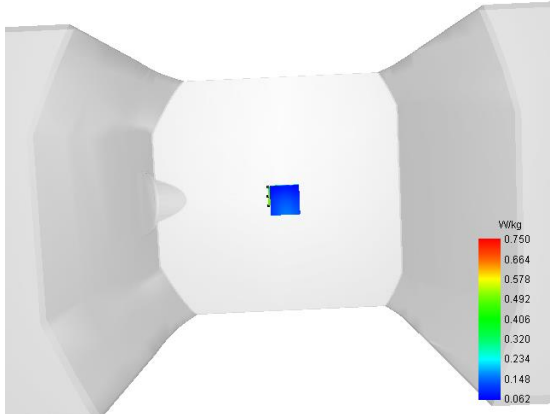
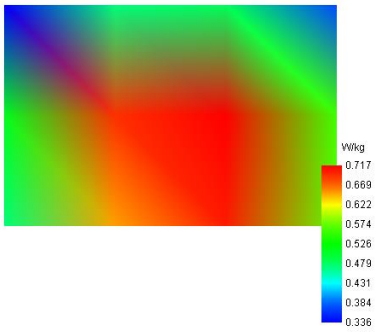
SAR 10g (W/Kg)	0.395703
SAR 1g (W/Kg)	0.725768

E. Z Axis Scan

Z (mm)	0.00	4.00	6.00	8.00	10.00	12.00	14.00	16.00	18.00
SAR (W/Kg)	1.1478	0.7497	0.6060	0.4897	0.3971	0.3229	0.2625	0.2126	0.1704



F. 3D Image

3D screen shot	Hot spot position
	

MEASUREMENT 7

Type: Phone measurement (Complete)

Date of measurement: 2020-04-28

Measurement duration: 12 minutes 3 seconds

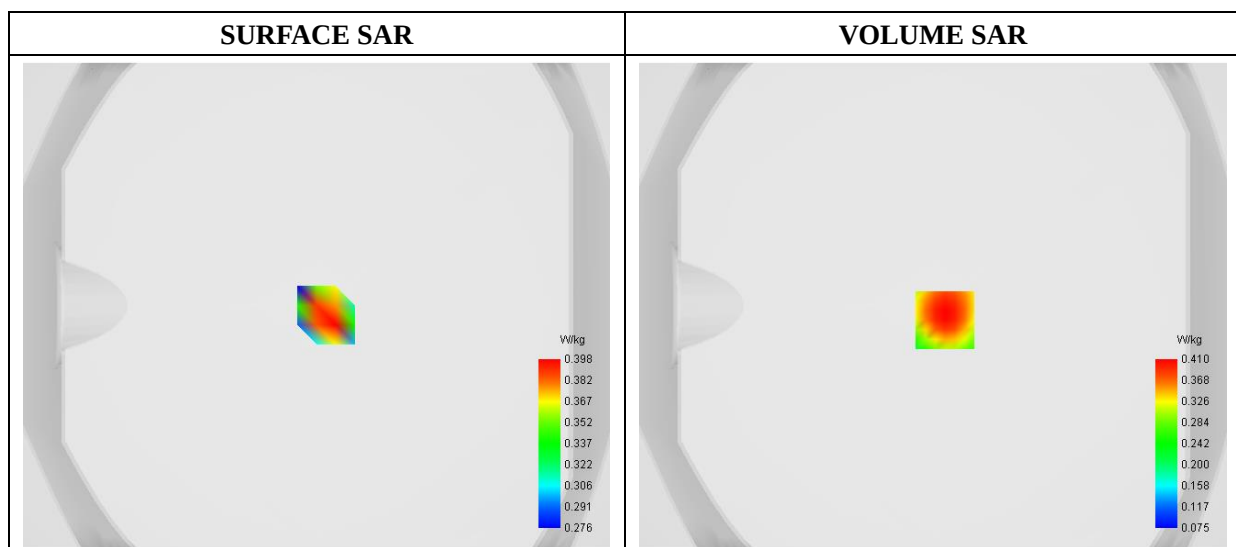
E-field Probe: SSE2 - SN 45/15 EPGO280; ConvF:2.39; Calibrated: 2019/07/08

A. Experimental conditions

Area Scan	dx=8mm dy=8mm
Zoom Scan	dx=8mm dy=8mm dz=5mm
Phantom	Flat Plane
Device Position	Front(Near to Mouth)
Band	WCDMA850_RMC
Channels	Low
Signal	Duty Cycle 1:1

B. SAR Measurement Results

Frequency (MHz)	826.600000
Relative Permittivity (real part)	41.110245
Conductivity (S/m)	0.871245
Power Variation (%)	1.342427
Ambient Temperature	21.1
Liquid Temperature	21.3



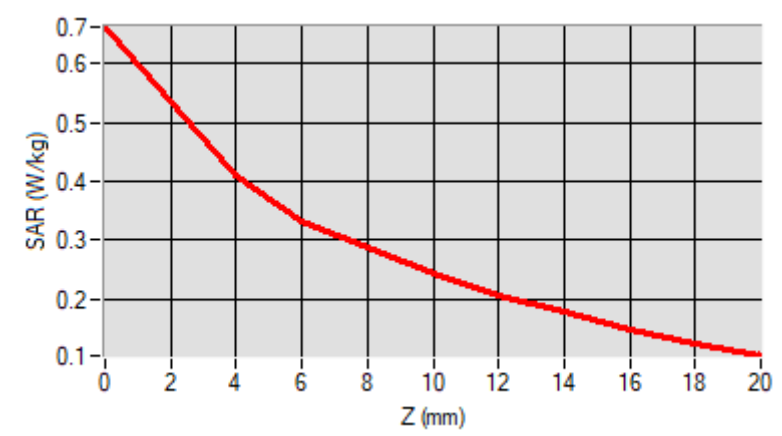
Maximum location: X=5.00, Y=-6.00

D. SAR 1g & 10g

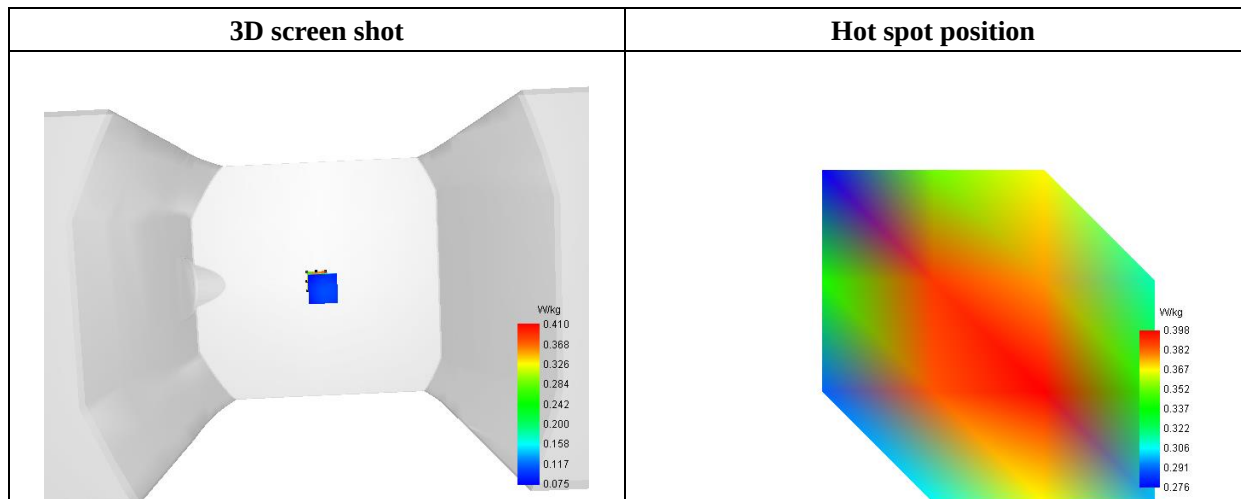
SAR 10g (W/Kg)	0.243538
SAR 1g (W/Kg)	0.388080

E. Z Axis Scan

Z (mm)	0.00	4.00	6.00	8.00	10.00	12.00	14.00	16.00	18.00
SAR (W/Kg)	0.6612	0.4096	0.3309	0.2875	0.2447	0.2054	0.1802	0.1481	0.1252



F. 3D Image



MEASUREMENT 10

Type: Phone measurement (Complete)

Date of measurement: 2020-04-30

Measurement duration: 12 minutes 3 seconds

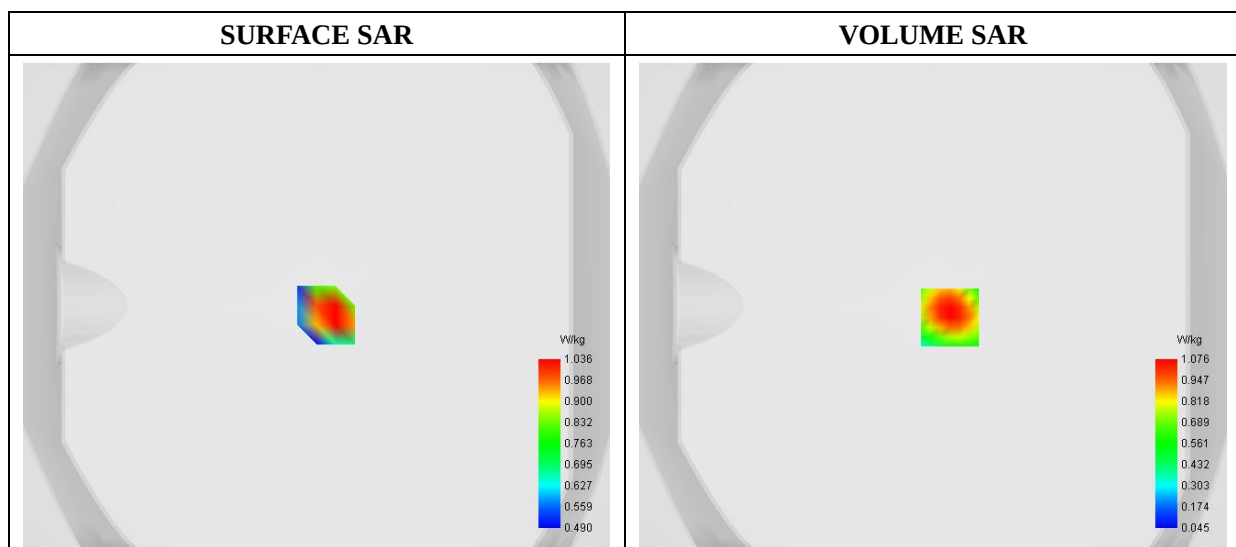
E-field Probe: SSE2 - SN 45/15 EPGO280; ConvF:2.39; Calibrated: 2019/07/08

A. Experimental conditions

Area Scan	dx=8mm dy=8mm
Zoom Scan	dx=8mm dy=8mm dz=5mm
Phantom	Flat Plane
Device Position	Front(Near to Mouth)
Band	LTE Band 2
Channels	QPSK, 20MHz, 1RB, High
Signal	Duty Cycle 1:1

B. SAR Measurement Results

Frequency (MHz)	1900.000000
Relative Permittivity (real part)	38.560124
Conductivity (S/m)	1.380369
Power Variation (%)	1.743564
Ambient Temperature	21.1
Liquid Temperature	21.3



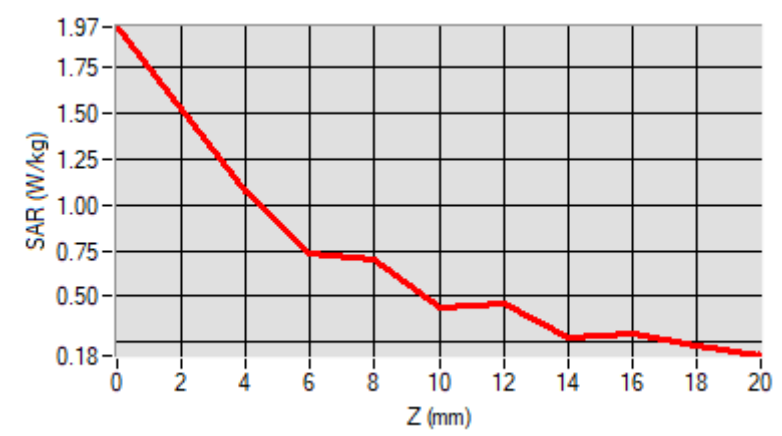
Maximum location: X=7.00, Y=-5.00

D. SAR 1g & 10g

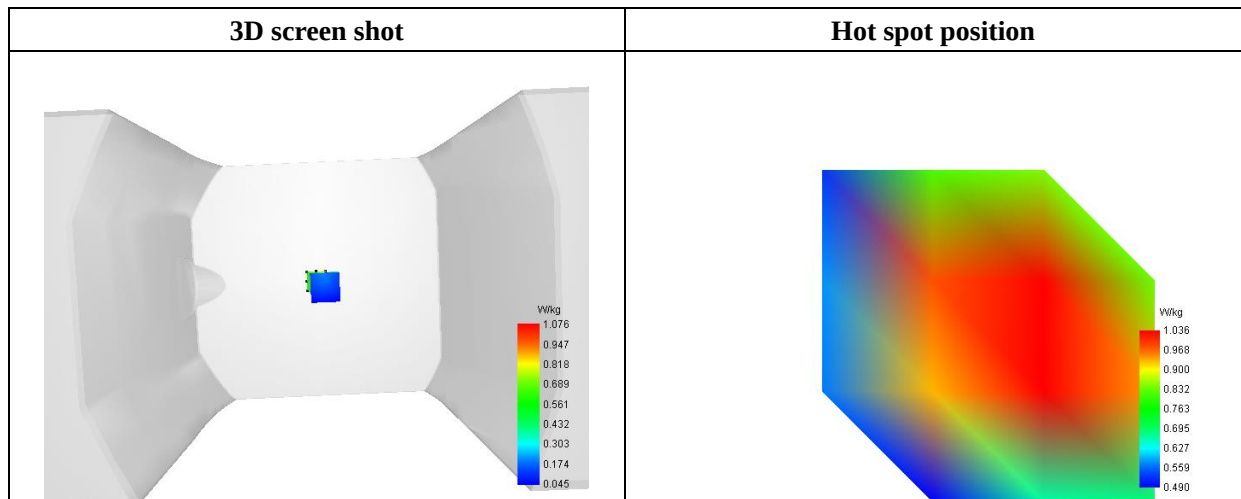
SAR 10g (W/Kg)	0.542836
SAR 1g (W/Kg)	1.049351

E. Z Axis Scan

Z (mm)	0.00	4.00	6.00	8.00	10.00	12.00	14.00	16.00	18.00
SAR (W/Kg)	1.9706	1.0759	0.7352	0.7040	0.4437	0.4595	0.2720	0.2947	0.2315



F. 3D Image



MEASUREMENT 14

Type: Phone measurement (Complete)

Date of measurement: 2020-05-12

Measurement duration: 12 minutes 3 seconds

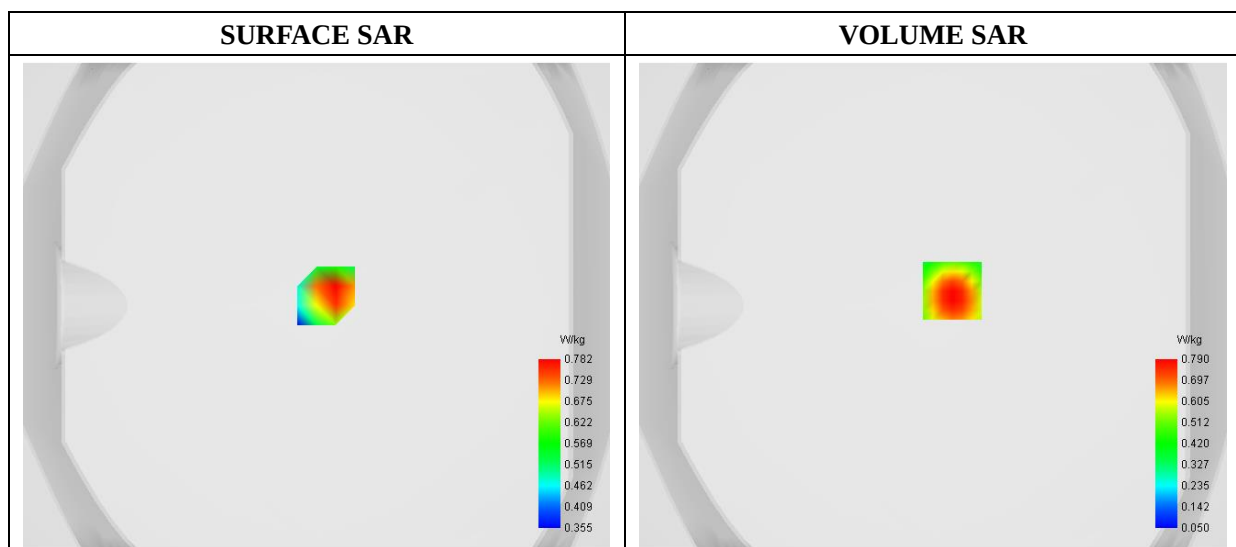
E-field Probe: SSE2 - SN 45/15 EPGO280; ConvF:2.39; Calibrated: 2019/07/08

A. Experimental conditions

Area Scan	dx=8mm dy=8mm
Zoom Scan	dx=8mm dy=8mm dz=5mm
Phantom	Flat Plane
Device Position	Front(Near to Mouth)
Band	LTE Band 4
Channels	QPSK, 20MHz, 1RB, Low
Signal	Duty Cycle 1:1

B. SAR Measurement Results

Frequency (MHz)	1720.000000
Relative Permittivity (real part)	39.025421
Conductivity (S/m)	1.370123
Power Variation (%)	1.374628
Ambient Temperature	21.1
Liquid Temperature	21.2



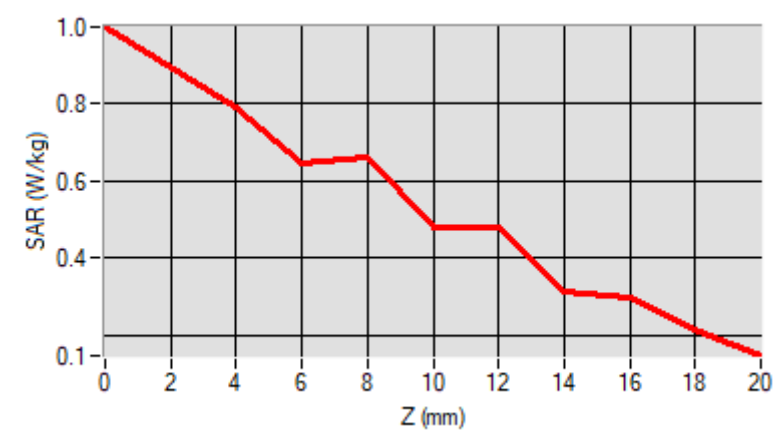
Maximum location: X=8.00, Y=6.00

D. SAR 1g & 10g

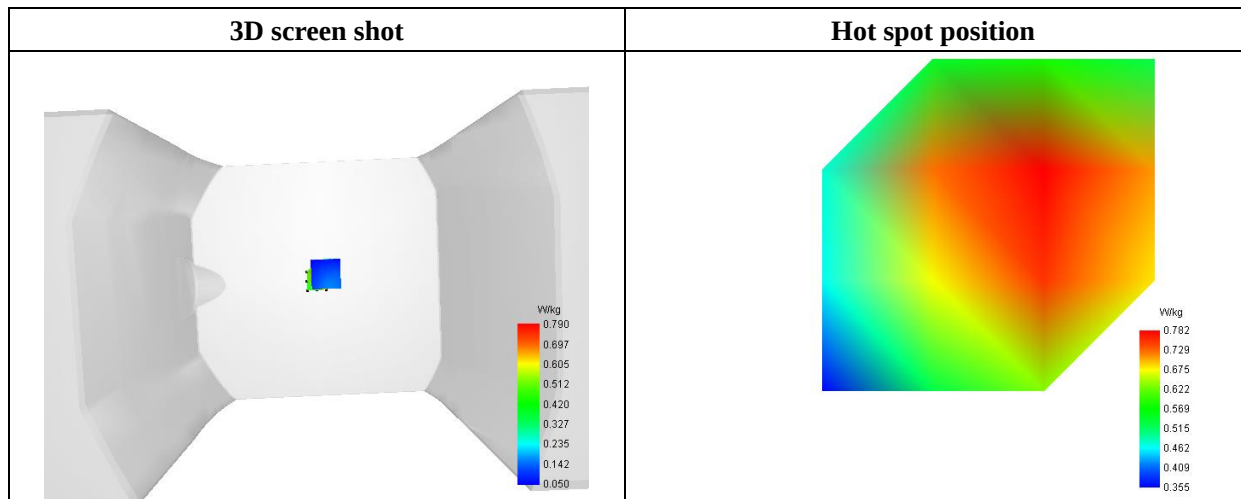
SAR 10g (W/Kg)	0.433144
SAR 1g (W/Kg)	0.781716

E. Z Axis Scan

Z (mm)	0.00	4.00	6.00	8.00	10.00	12.00	14.00	16.00	18.00
SAR (W/Kg)	0.9978	0.7899	0.6467	0.6583	0.4794	0.4798	0.3115	0.2969	0.2159



F. 3D Image



MEASUREMENT 18

Type: Phone measurement (Complete)

Date of measurement: 2020-04-28

Measurement duration: 12 minutes 3 seconds

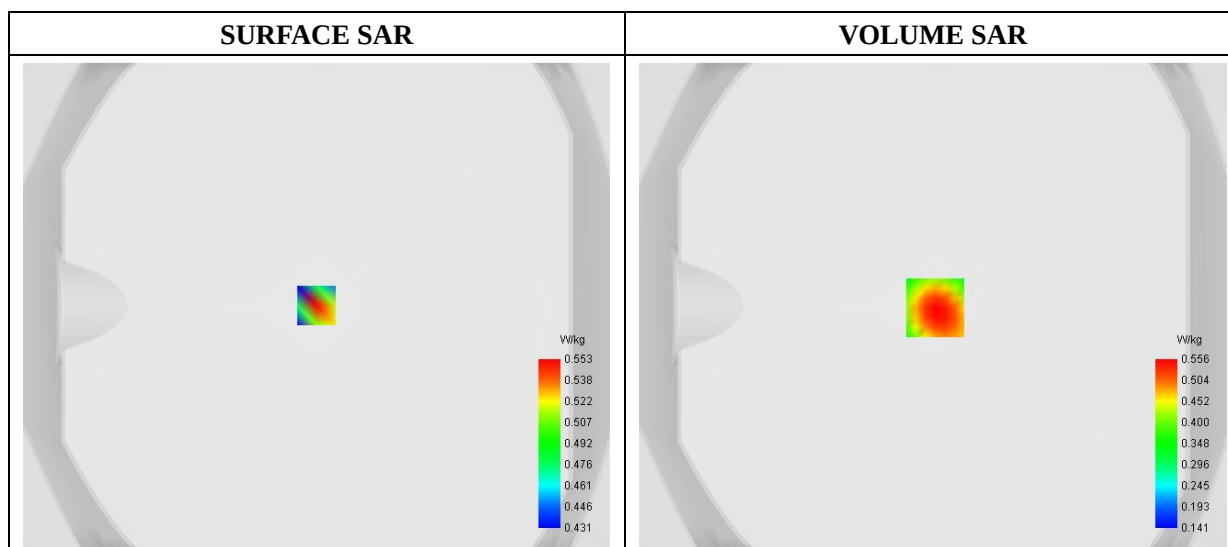
E-field Probe: SSE2 - SN 45/15 EPGO280; ConvF:2.39; Calibrated: 2019/07/08

A. Experimental conditions

Area Scan	dx=8mm dy=8mm
Zoom Scan	dx=8mm dy=8mm dz=5mm
Phantom	Flat Plane
Device Position	Front(Near to Mouth)
Band	LTE Band 5_RMC
Channels	QPSK, 10MHz, 1RB, High
Signal	Duty Cycle 1:1

B. SAR Measurement Results

Frequency (MHz)	844.000000
Relative Permittivity (real part)	41.110245
Conductivity (S/m)	0.871245
Power Variation (%)	0.924535
Ambient Temperature	21.1
Liquid Temperature	21.2



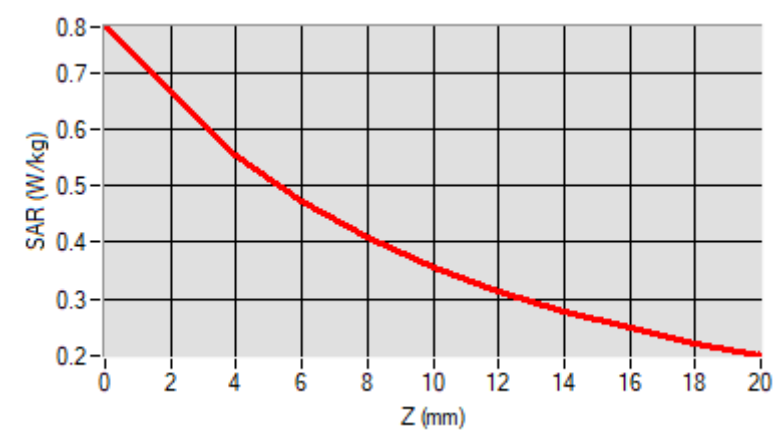
Maximum location: X=1.00, Y=-1.00

D. SAR 1g & 10g

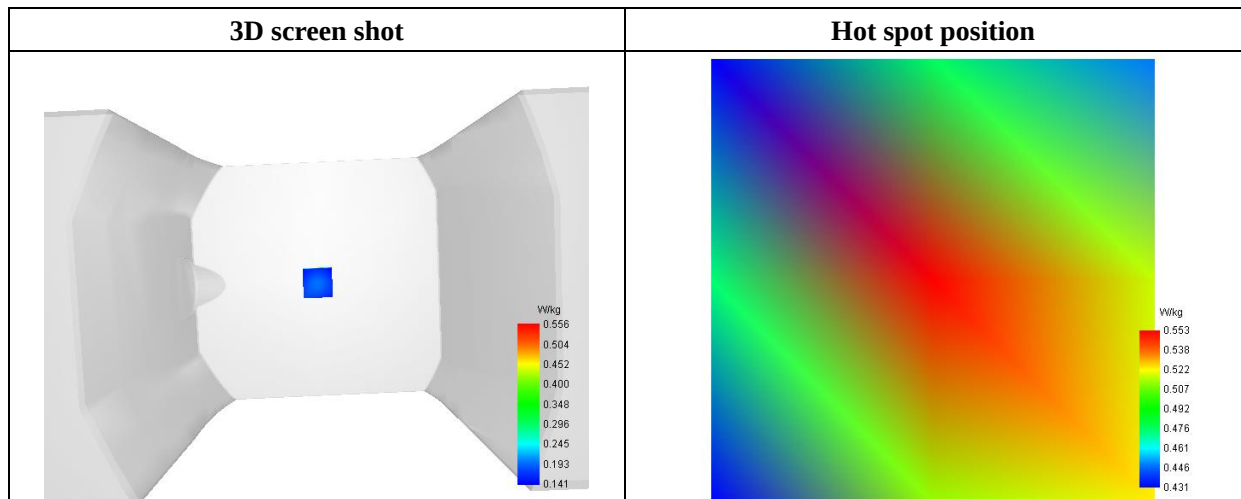
SAR 10g (W/Kg)	0.349084
SAR 1g (W/Kg)	0.529135

E. Z Axis Scan

Z (mm)	0.00	4.00	6.00	8.00	10.00	12.00	14.00	16.00	18.00
SAR (W/Kg)	0.7815	0.5559	0.4740	0.4073	0.3543	0.3116	0.2767	0.2475	0.2222



F. 3D Image



MEASUREMENT 20

Type: Phone measurement (Complete)

Date of measurement: 2020-05-14

Measurement duration: 12 minutes 3 seconds

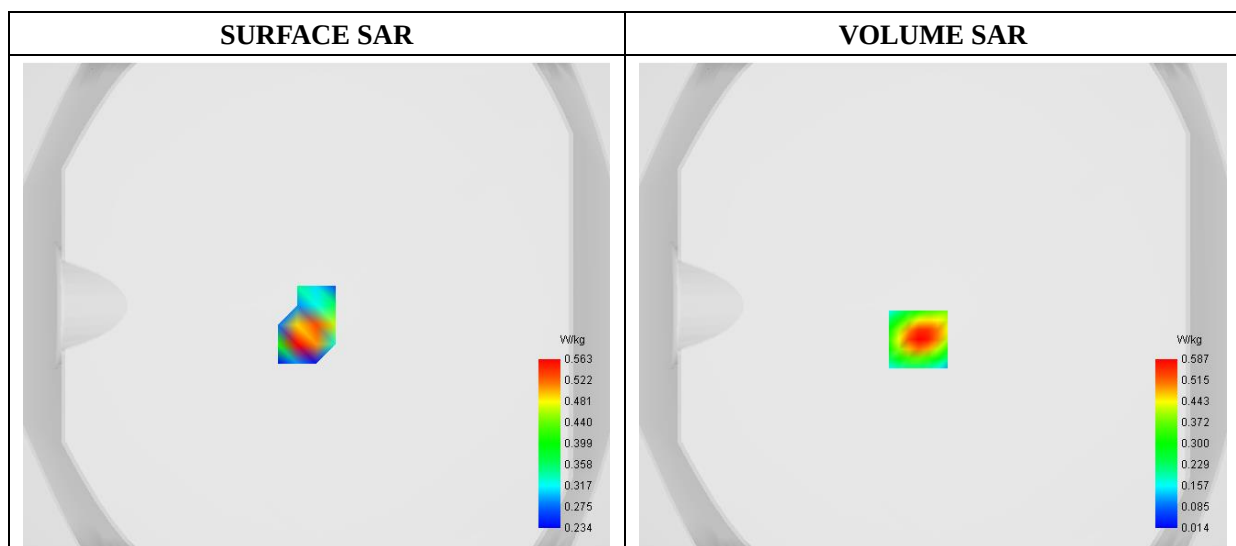
E-field Probe: SSE2 - SN 45/15 EPGO280; ConvF:2.39; Calibrated: 2019/07/08

A. Experimental conditions

Area Scan	dx=8mm dy=8mm
Zoom Scan	dx=8mm dy=8mm dz=5mm
Phantom	Flat Plane
Device Position	Front(Near to Mouth)
Band	LTE Band 7_RMC
Channels	QPSK, 20MHz, 1RB, Middle
Signal	Duty Cycle 1:1

B. SAR Measurement Results

Frequency (MHz)	2535.000000
Relative Permittivity (real part)	38.631092
Conductivity (S/m)	1.930182
Power Variation (%)	0.924535
Ambient Temperature	21.1
Liquid Temperature	21.2



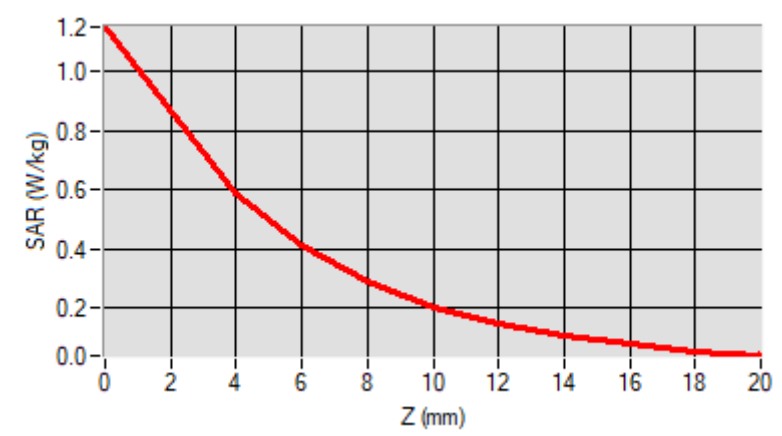
Maximum location: X=-6.00, Y=-14.00

D. SAR 1g & 10g

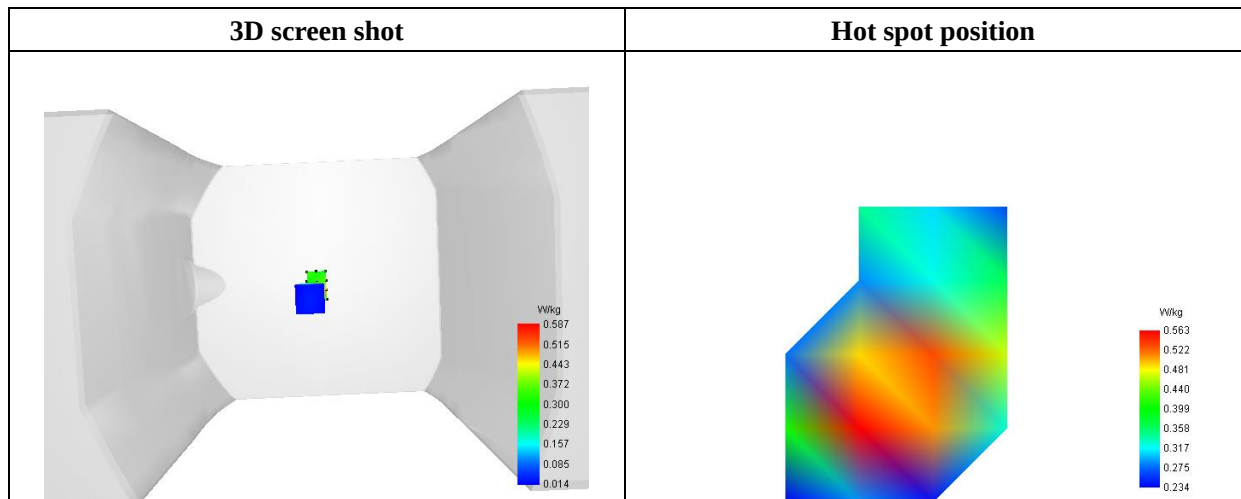
SAR 10g (W/Kg)	0.230496
SAR 1g (W/Kg)	0.540150

E. Z Axis Scan

Z (mm)	0.00	4.00	6.00	8.00	10.00	12.00	14.00	16.00	18.00
SAR (W/Kg)	1.1516	0.5867	0.4123	0.2877	0.2022	0.1435	0.1029	0.0741	0.0529



F. 3D Image



MEASUREMENT 22

Type: Phone measurement (Complete)

Date of measurement: 2020-04-27

Measurement duration: 12 minutes 3 seconds

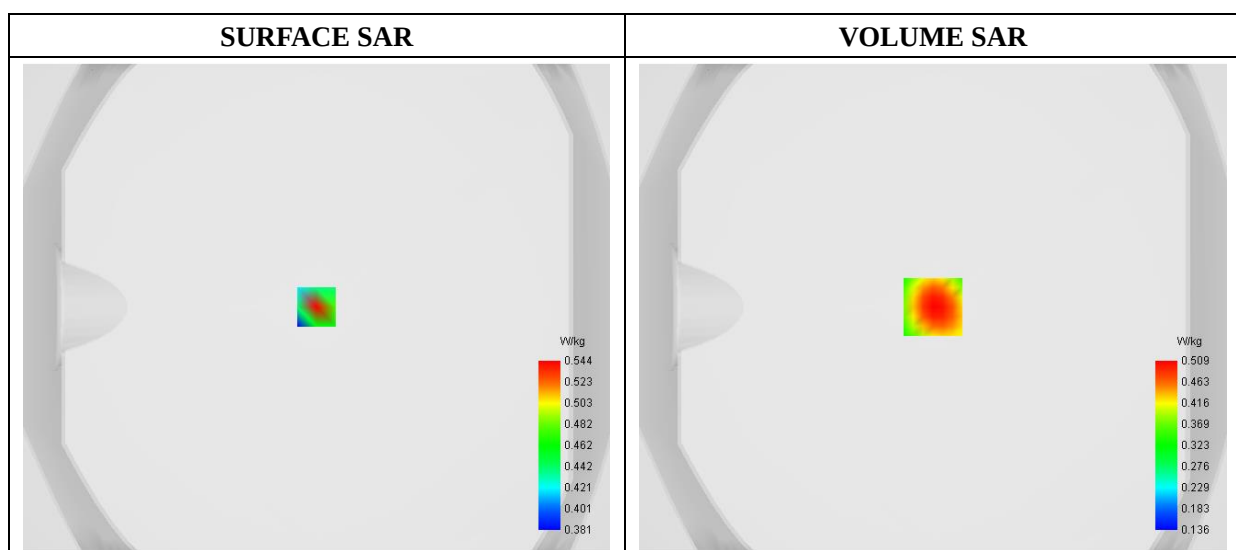
E-field Probe: SSE2 - SN 45/15 EPGO280; ConvF:2.39; Calibrated: 2019/07/08

A. Experimental conditions

Area Scan	dx=8mm dy=8mm
Zoom Scan	dx=8mm dy=8mm dz=5mm
Phantom	Flat Plane
Device Position	Front(Near to Mouth)
Band	LTE Band 17_RMC
Channels	QPSK, 10MHz, 1RB, High
Signal	Duty Cycle 1:1

B. SAR Measurement Results

Frequency (MHz)	711.000000
Relative Permittivity (real part)	41.320574
Conductivity (S/m)	0.862373
Power Variation (%)	0.924535
Ambient Temperature	21.1
Liquid Temperature	21.2



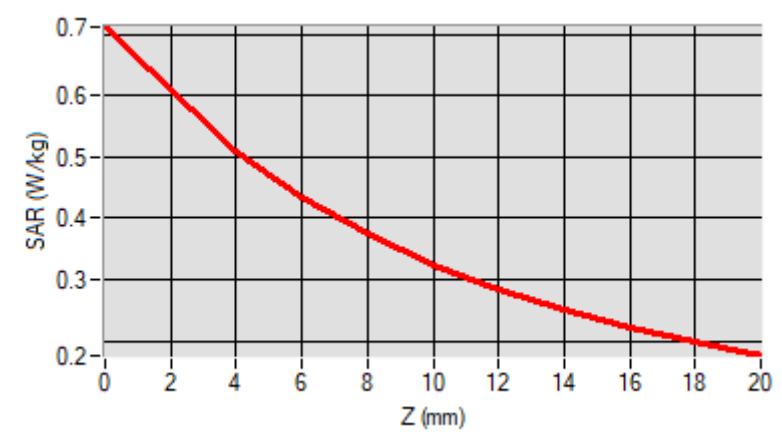
Maximum location: X=0.00, Y=0.00

D. SAR 1g & 10g

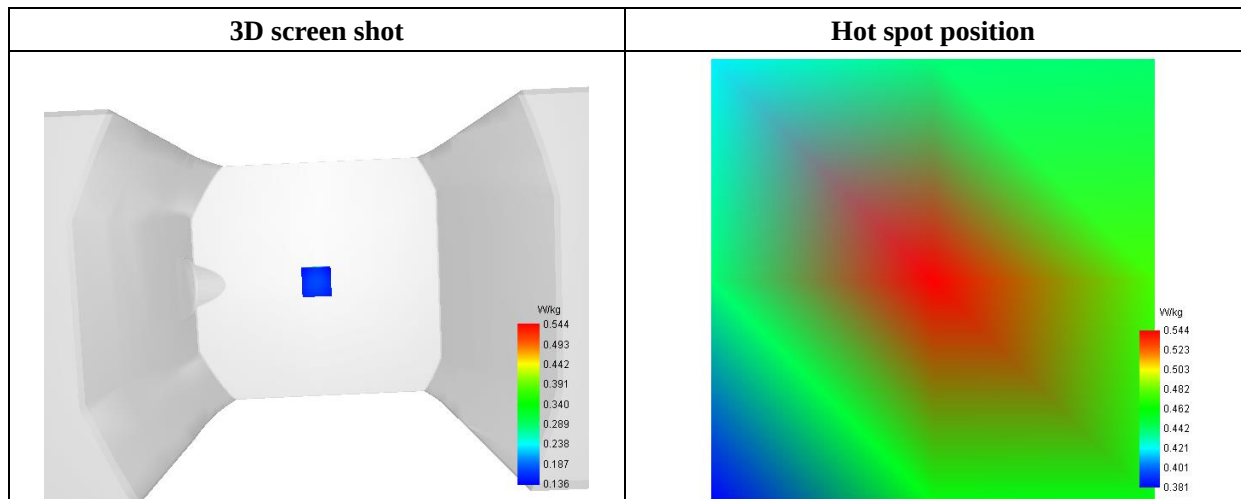
SAR 10g (W/Kg)	0.333805
SAR 1g (W/Kg)	0.510242

E. Z Axis Scan

Z (mm)	0.00	4.00	6.00	8.00	10.00	12.00	14.00	16.00	18.00
SAR (W/Kg)	0.7115	0.5094	0.4351	0.3740	0.3248	0.2847	0.2515	0.2233	0.1988



F. 3D Image



MEASUREMENT 24

Type: Phone measurement (Complete)

Date of measurement: 2020-05-14

Measurement duration: 12 minutes 3 seconds

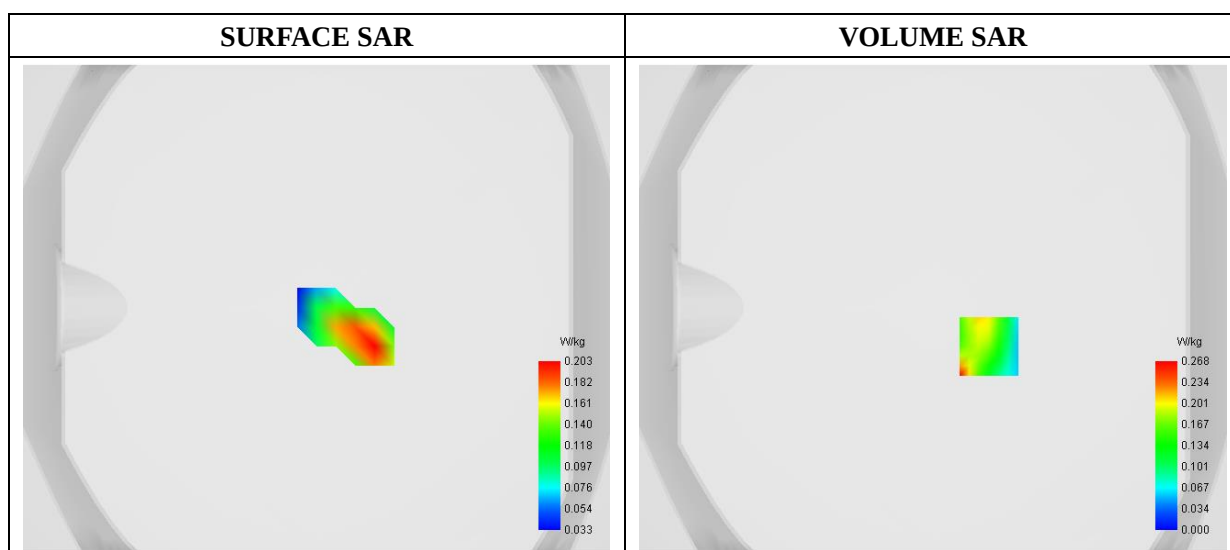
E-field Probe: SSE2 - SN 45/15 EPGO280; ConvF:2.39; Calibrated: 2019/07/08

A. Experimental conditions

Area Scan	dx=8mm dy=8mm
Zoom Scan	dx=8mm dy=8mm dz=5mm
Phantom	Flat Plane
Device Position	Front(Near to Mouth)
Band	WiFi_802.11b
Channels	Low
Signal	Duty Cycle 1:1

B. SAR Measurement Results

Frequency (MHz)	2412.000000
Relative Permittivity (real part)	38.153660
Conductivity (S/m)	1.740236
Power Variation (%)	3.234772
Ambient Temperature	21.1
Liquid Temperature	21.2



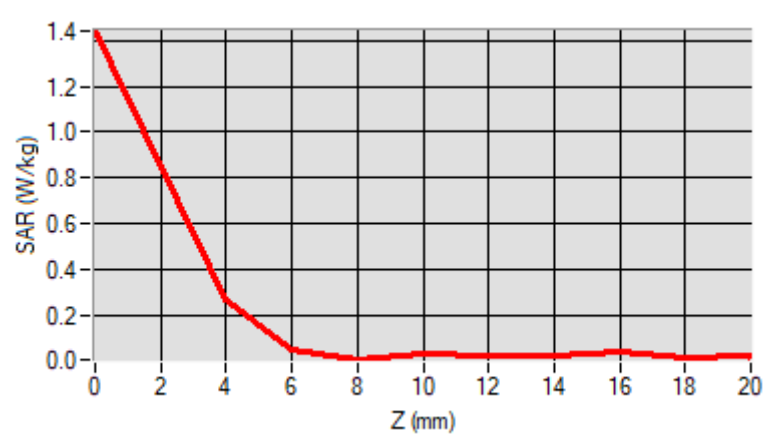
Maximum location: X=23.00, Y=-16.00

D. SAR 1g & 10g

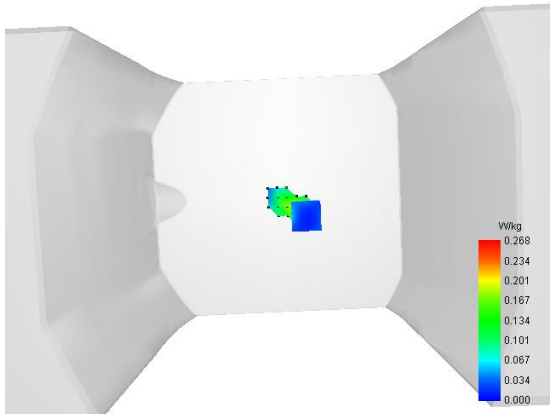
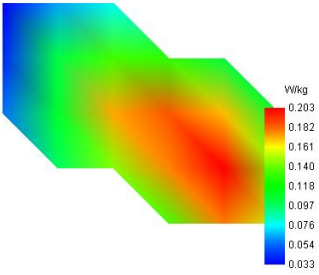
SAR 10g (W/Kg)	0.098529
SAR 1g (W/Kg)	0.202739

E. Z Axis Scan

Z (mm)	0.00	4.00	6.00	8.00	10.00	12.00	14.00	16.00	18.00
SAR (W/Kg)	1.4415	0.2677	0.0517	0.0053	0.0357	0.0202	0.0200	0.0424	0.0153



F. 3D Image

3D screen shot	Hot spot position
	

MEASUREMENT 25

Type: Phone measurement (Complete)

Date of measurement: 2020-04-28

Measurement duration: 12 minutes 3 seconds

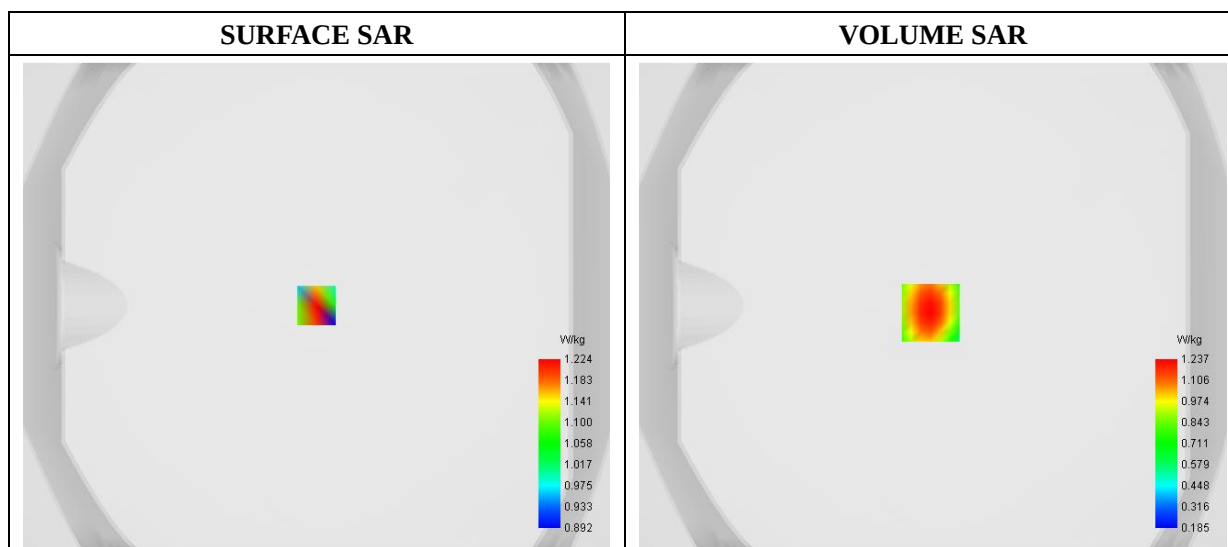
E-field Probe: SSE2 - SN 45/15 EPGO280; ConvF:2.39; Calibrated: 2019/07/08

A. Experimental conditions

Area Scan	dx=8mm dy=8mm
Zoom Scan	dx=8mm dy=8mm dz=5mm
Phantom	Flat Plane
Device Position	Back
Band	GPRS850_4TX
Channels	Low
Signal	Duty Cycle: 1:2

B. SAR Measurement Results

Frequency (MHz)	824.200000
Relative Permittivity (real part)	54.851214
Conductivity (S/m)	0.951454
Power Variation (%)	0.901472
Ambient Temperature	21.1
Liquid Temperature	21.3



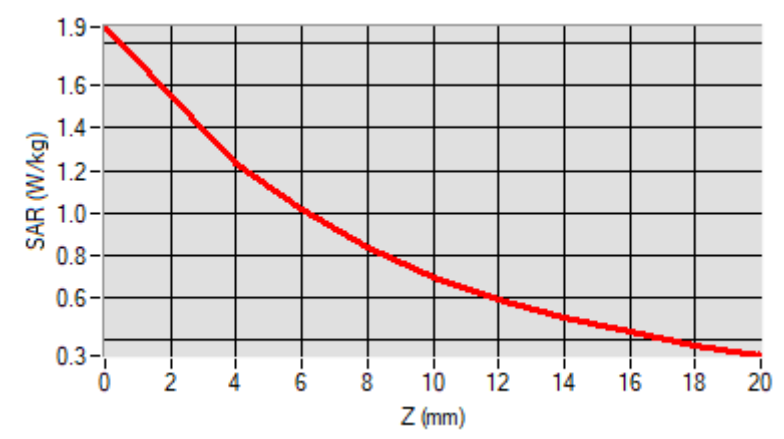
Maximum location: X=-1.00, Y=-3.00

D. SAR 1g & 10g

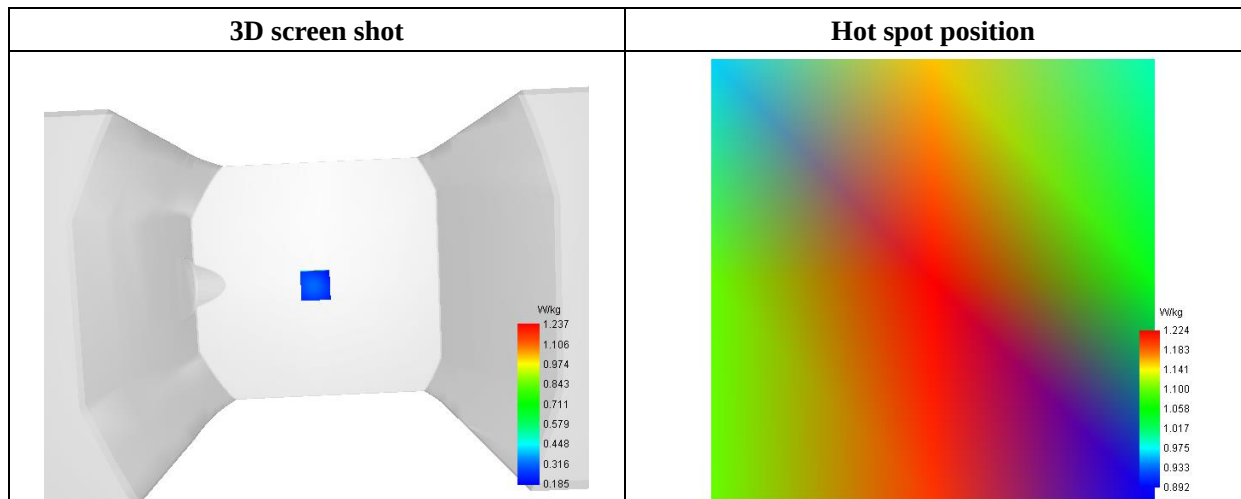
SAR 10g (W/Kg)	0.704183
SAR 1g (W/Kg)	1.171590

E. Z Axis Scan

Z (mm)	0.00	4.00	6.00	8.00	10.00	12.00	14.00	16.00	18.00
SAR (W/Kg)	1.8787	1.2372	1.0125	0.8342	0.6963	0.5885	0.5030	0.4334	0.3746



F. 3D Image



MEASUREMENT 28

Type: Phone measurement (Complete)

Date of measurement: 2020-04-30

Measurement duration: 12 minutes 3 seconds

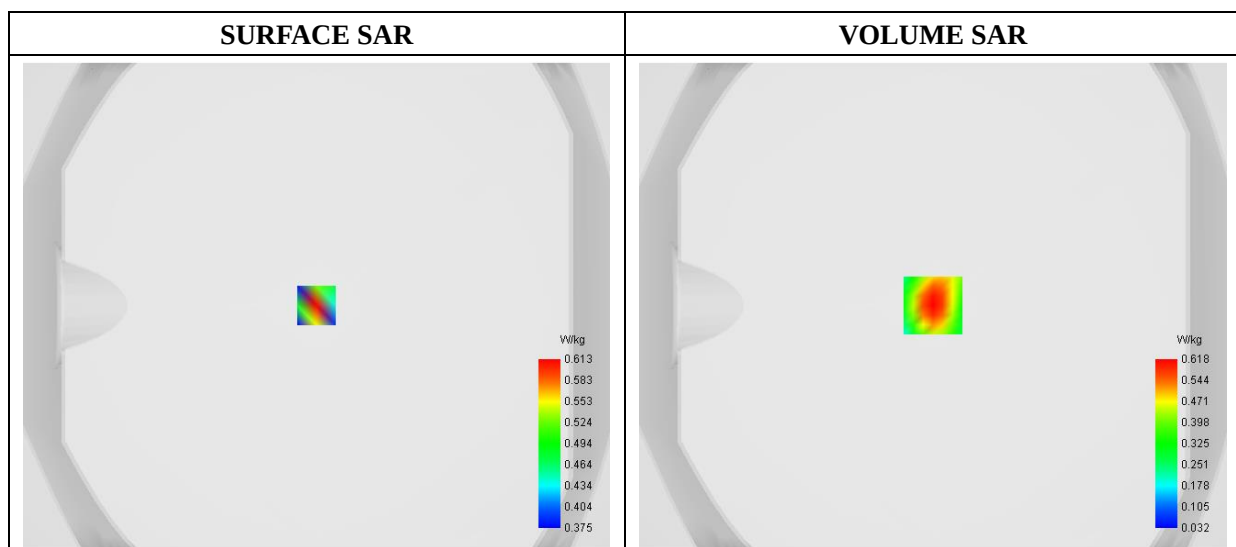
E-field Probe: SSE2 - SN 45/15 EPGO280; ConvF:2.39; Calibrated: 2019/07/08

A. Experimental conditions

Area Scan	dx=8mm dy=8mm
Zoom Scan	dx=8mm dy=8mm dz=5mm
Phantom	Flat Plane
Device Position	Back
Band	GPRS1900_4TX
Channels	Low
Signal	Duty Cycle: 1:2

B. SAR Measurement Results

Frequency (MHz)	1850.200000
Relative Permittivity (real part)	52.420415
Conductivity (S/m)	1.501966
Power Variation (%)	1.474622
Ambient Temperature	21.1
Liquid Temperature	21.3



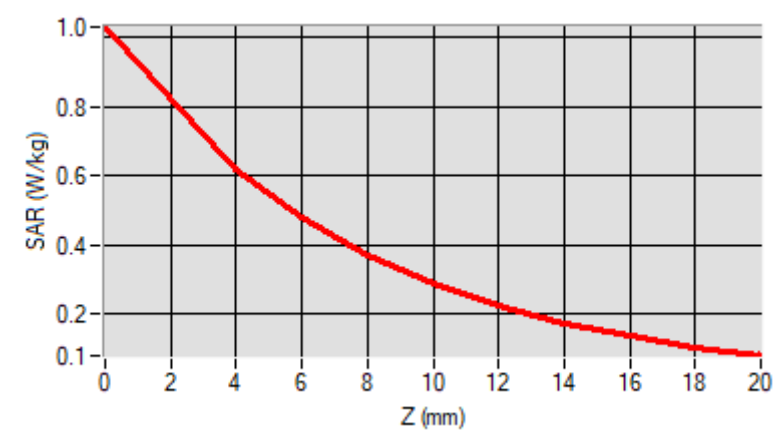
Maximum location: X=0.00, Y=0.00

D. SAR 1g & 10g

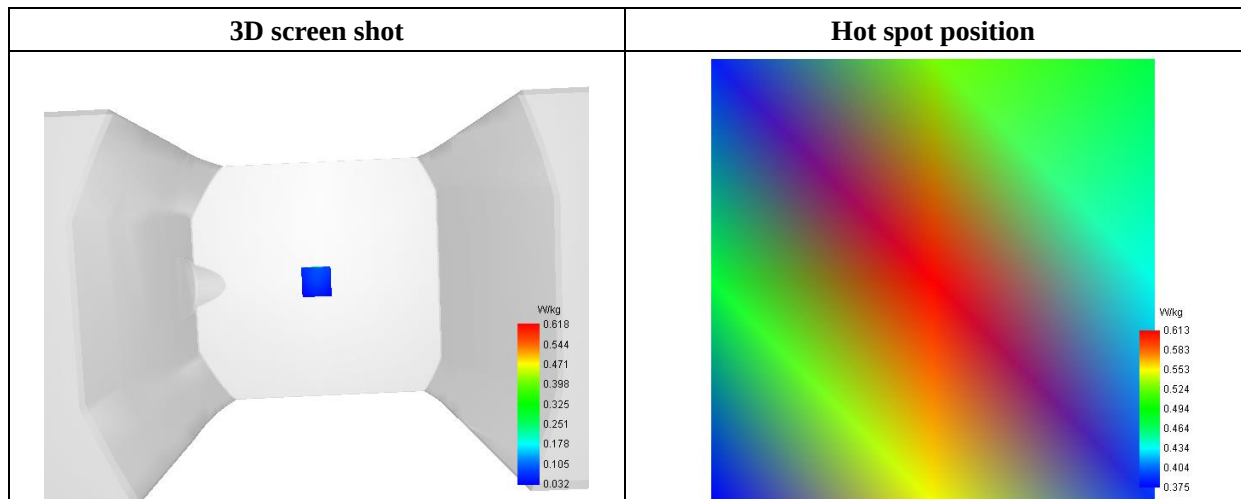
SAR 10g (W/Kg)	0.289039
SAR 1g (W/Kg)	0.571596

E. Z Axis Scan

Z (mm)	0.00	4.00	6.00	8.00	10.00	12.00	14.00	16.00	18.00
SAR (W/Kg)	1.0291	0.6177	0.4776	0.3689	0.2866	0.2240	0.1755	0.1373	0.1063



F. 3D Image



MEASUREMENT 29

Type: Phone measurement (Complete)

Date of measurement: 2020-04-30

Measurement duration: 12 minutes 3 seconds

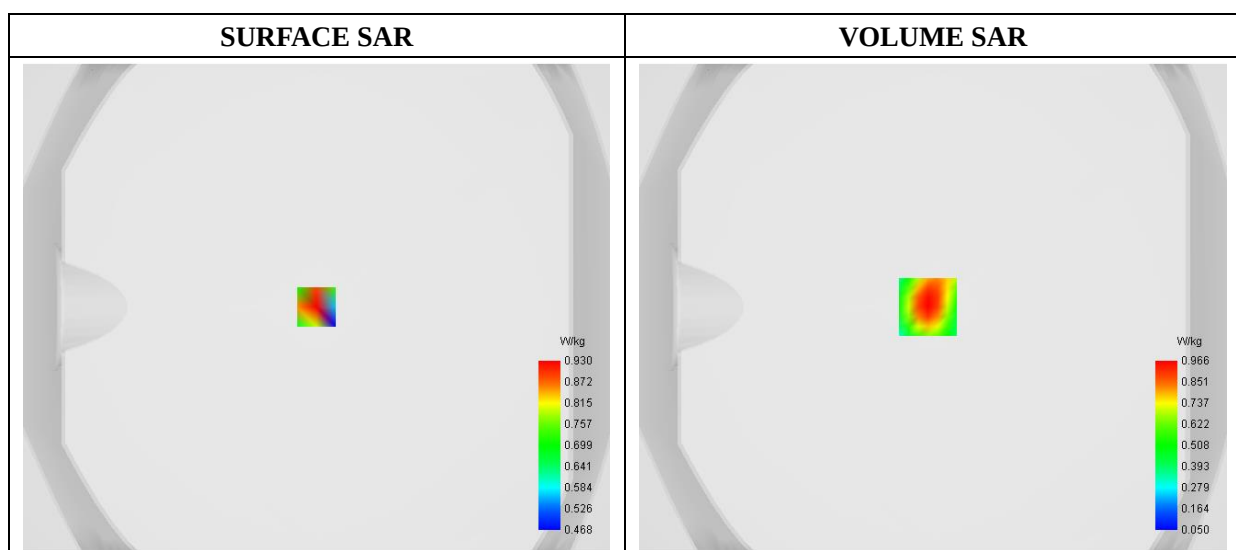
E-field Probe: SSE2 - SN 45/15 EPGO280; ConvF:2.39; Calibrated: 2019/07/08

A. Experimental conditions

Area Scan	dx=8mm dy=8mm
Zoom Scan	dx=8mm dy=8mm dz=5mm
Phantom	Flat Plane
Device Position	Back
Band	WCDMA1900_RMC
Channels	Low
Signal	Duty Cycle 1:1

B. SAR Measurement Results

Frequency (MHz)	1852.400000
Relative Permittivity (real part)	52.420415
Conductivity (S/m)	1.501966
Power Variation (%)	1.789272
Ambient Temperature	21.1
Liquid Temperature	21.3



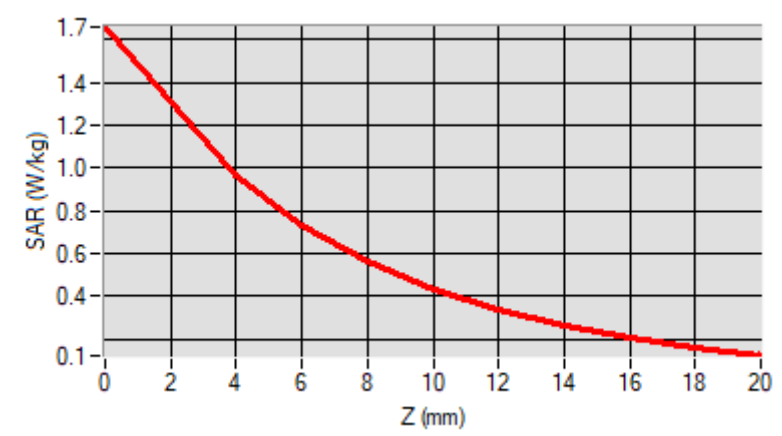
Maximum location: X=-2.00, Y=0.00

D. SAR 1g & 10g

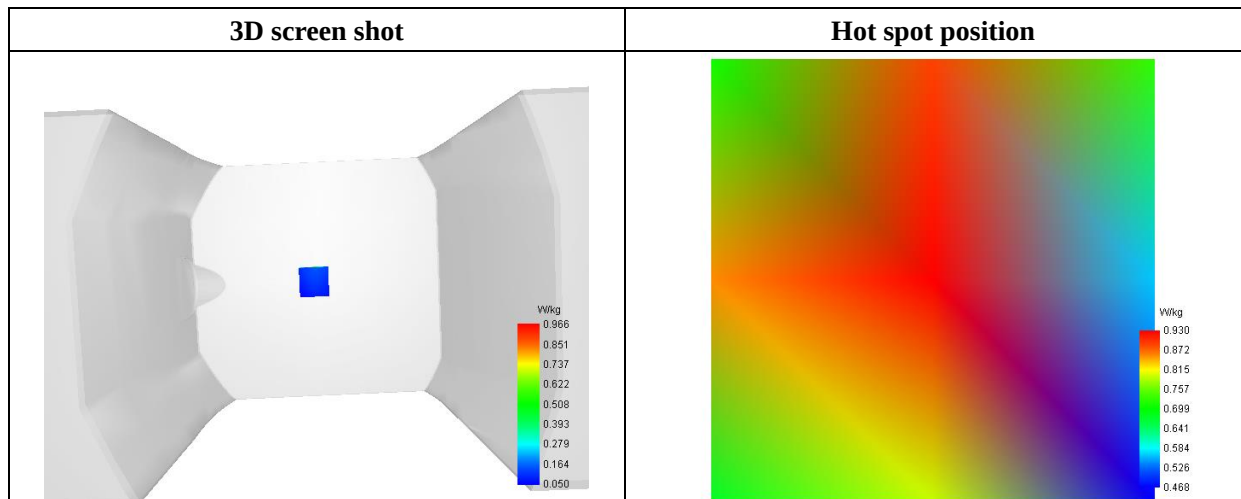
SAR 10g (W/Kg)	0.455629
SAR 1g (W/Kg)	0.902753

E. Z Axis Scan

Z (mm)	0.00	4.00	6.00	8.00	10.00	12.00	14.00	16.00	18.00
SAR (W/Kg)	1.6580	0.9655	0.7353	0.5600	0.4304	0.3339	0.2610	0.2047	0.1596



F. 3D Image



MEASUREMENT 32

Type: Phone measurement (Complete)

Date of measurement: 2020-05-12

Measurement duration: 12 minutes 3 seconds

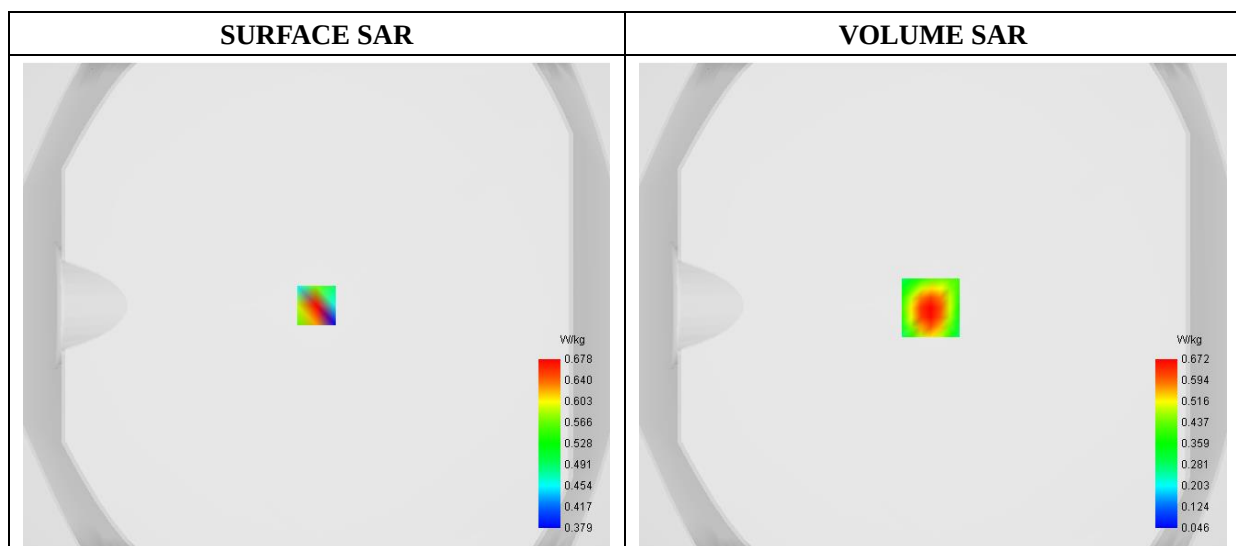
E-field Probe: SSE2 - SN 45/15 EPGO280; ConvF:2.39; Calibrated: 2019/07/08

A. Experimental conditions

Area Scan	dx=8mm dy=8mm
Zoom Scan	dx=8mm dy=8mm dz=5mm
Phantom	Flat Plane
Device Position	Front(Near to Mouth)
Band	WCDMA1700_RMC
Channels	Low
Signal	Duty Cycle 1:1

B. SAR Measurement Results

Frequency (MHz)	1732.400000
Relative Permittivity (real part)	51.224510
Conductivity (S/m)	1.251863
Power Variation (%)	2.021621
Ambient Temperature	21.1
Liquid Temperature	21.3



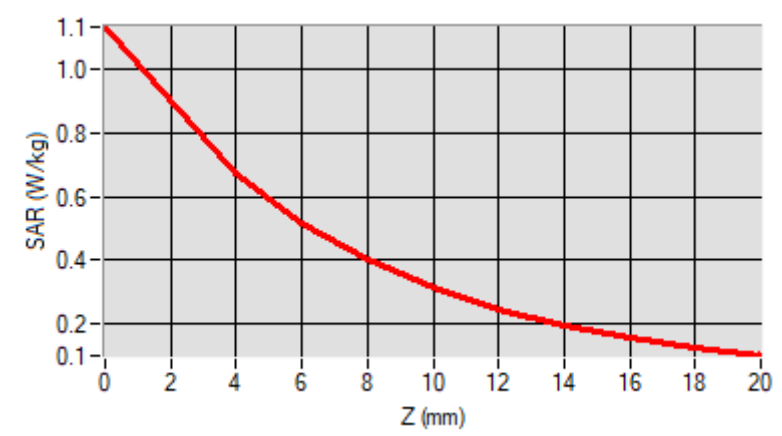
Maximum location: X=-1.00, Y=-1.00

D. SAR 1g & 10g

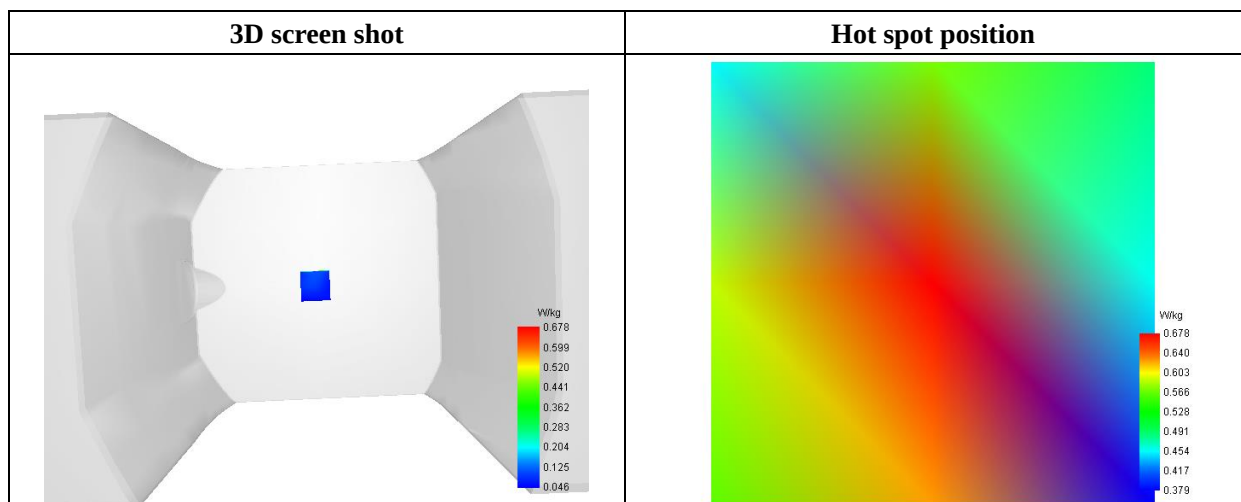
SAR 10g (W/Kg)	0.318332
SAR 1g (W/Kg)	0.615248

E. Z Axis Scan

Z (mm)	0.00	4.00	6.00	8.00	10.00	12.00	14.00	16.00	18.00
SAR (W/Kg)	1.1360	0.6723	0.5172	0.3985	0.3102	0.2441	0.1939	0.1547	0.1231



F. 3D Image



MEASUREMENT 33

Type: Phone measurement (Complete)

Date of measurement: 2020-04-28

Measurement duration: 12 minutes 3 seconds

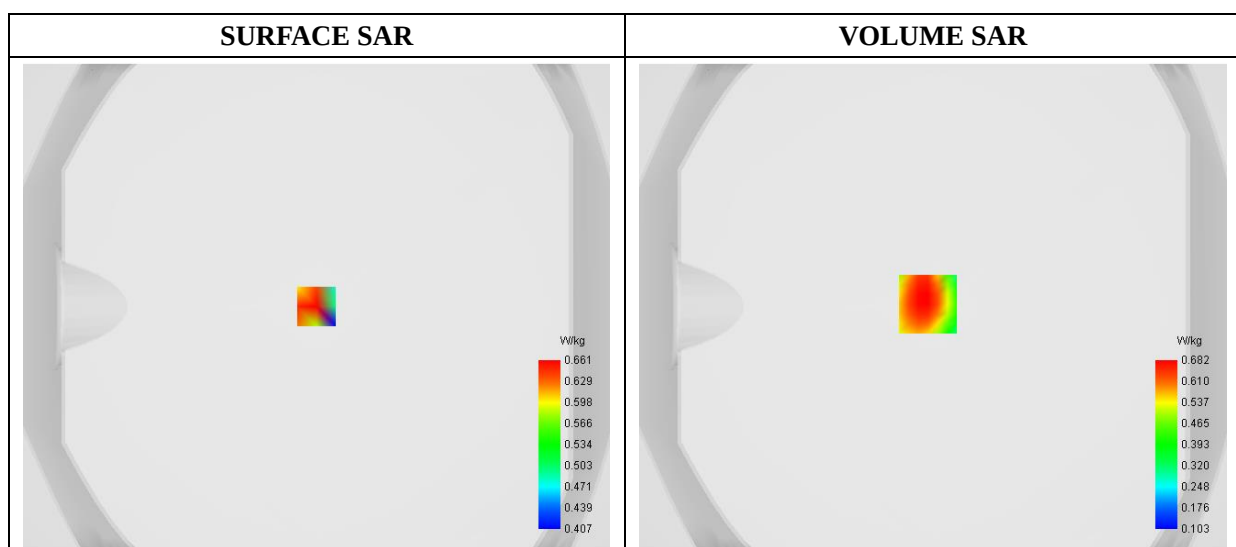
E-field Probe: SSE2 - SN 45/15 EPGO280; ConvF:2.39; Calibrated: 2019/07/08

A. Experimental conditions

Area Scan	dx=8mm dy=8mm
Zoom Scan	dx=8mm dy=8mm dz=5mm
Phantom	Flat Plane
Device Position	Back
Band	WCDMA850_RMC
Channels	Low
Signal	Duty Cycle 1:1

B. SAR Measurement Results

Frequency (MHz)	826.400000
Relative Permittivity (real part)	54.851214
Conductivity (S/m)	0.951454
Power Variation (%)	2.341234
Ambient Temperature	21.1
Liquid Temperature	21.3



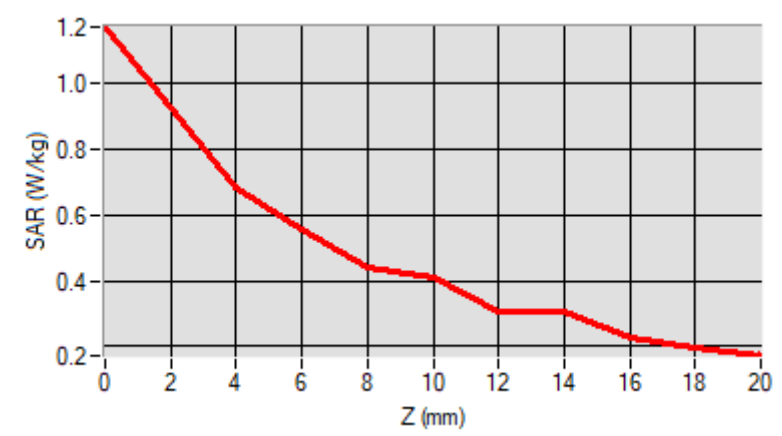
Maximum location: X=-2.00, Y=1.00

D. SAR 1g & 10g

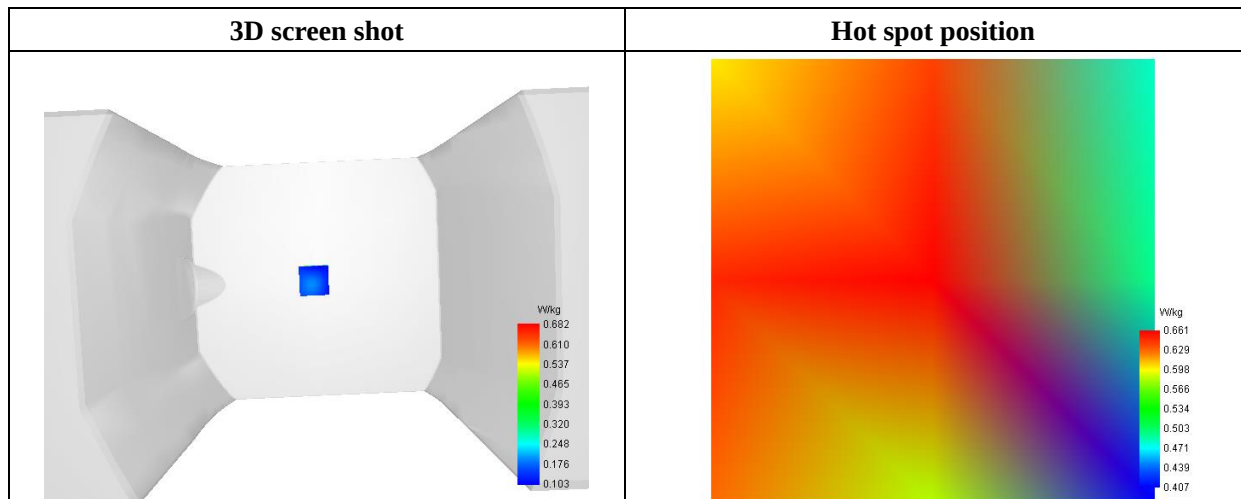
SAR 10g (W/Kg)	0.401471
SAR 1g (W/Kg)	0.651688

E. Z Axis Scan

Z (mm)	0.00	4.00	6.00	8.00	10.00	12.00	14.00	16.00	18.00
SAR (W/Kg)	1.1695	0.6819	0.5570	0.4414	0.4095	0.3049	0.3058	0.2254	0.1968



F. 3D Image



MEASUREMENT 35

Type: Phone measurement (Complete)

Date of measurement: 2020-04-30

Measurement duration: 12 minutes 3 seconds

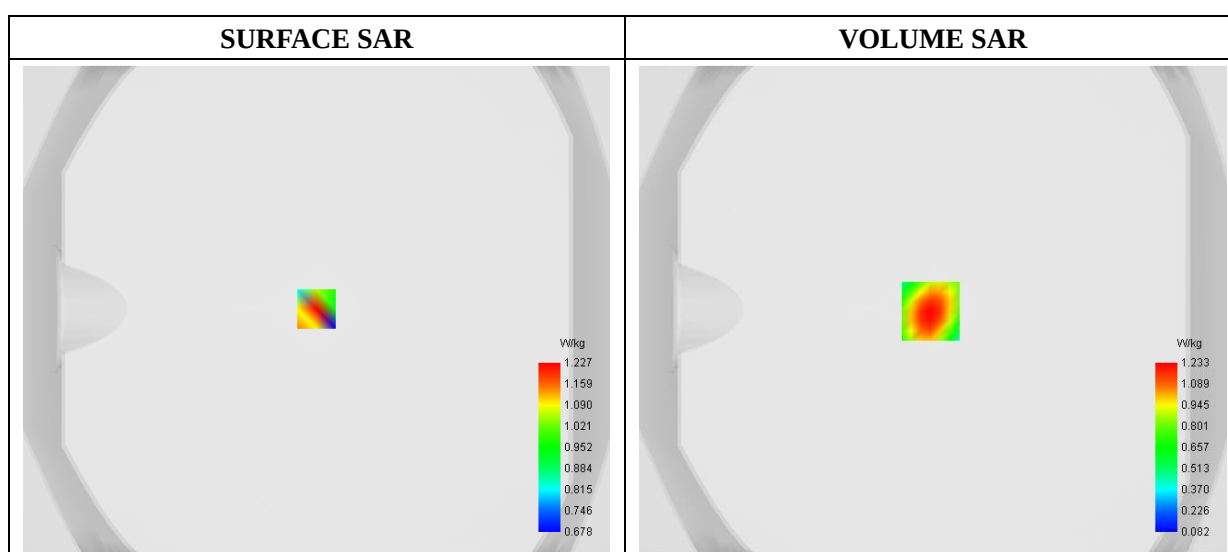
E-field Probe: SSE2 - SN 45/15 EPGO280; ConvF:2.39; Calibrated: 2019/07/08

A. Experimental conditions

Area Scan	dx=8mm dy=8mm
Zoom Scan	dx=8mm dy=8mm dz=5mm
Phantom	Flat Plane
Device Position	Back
Band	LTE Band 2
Channels	QPSK, 20MHz, 1RB,Middle
Signal	Duty Cycle 1:1

B. SAR Measurement Results

Frequency (MHz)	1880.000000
Relative Permittivity (real part)	52.420415
Conductivity (S/m)	1.501966
Power Variation (%)	1.523573
Ambient Temperature	21.1
Liquid Temperature	21.3



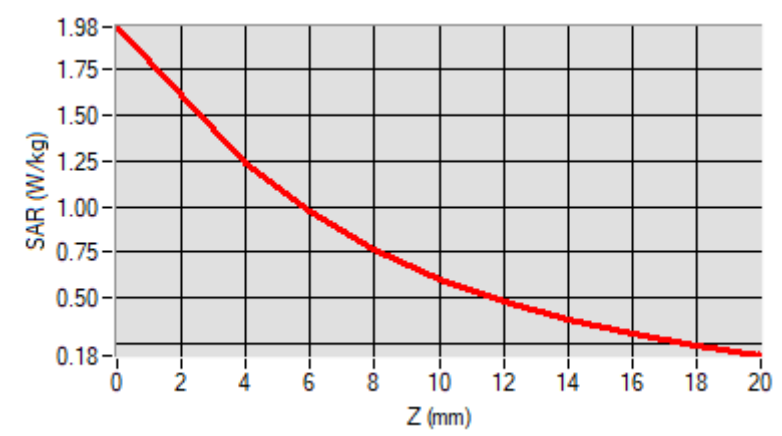
Maximum location: X=-1.00, Y=-1.00

D. SAR 1g & 10g

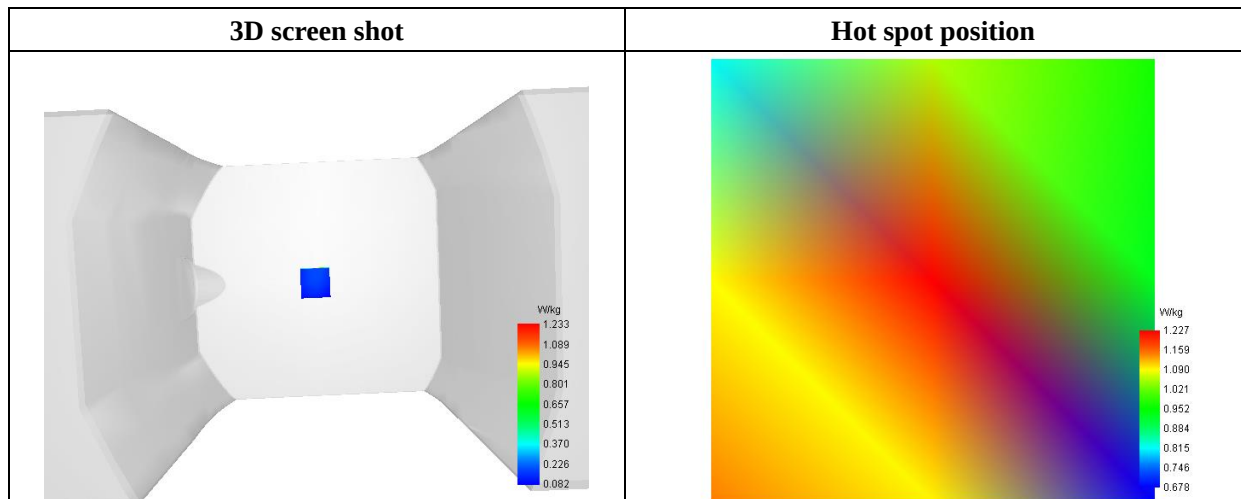
SAR 10g (W/Kg)	0.603232
SAR 1g (W/Kg)	1.137680

E. Z Axis Scan

Z (mm)	0.00	4.00	6.00	8.00	10.00	12.00	14.00	16.00	18.00
SAR (W/Kg)	1.9837	1.2326	0.9710	0.7645	0.6052	0.4812	0.3834	0.3047	0.2398



F. 3D Image



MEASUREMENT 39

Type: Phone measurement (Complete)

Date of measurement: 2020-05-12

Measurement duration: 12 minutes 3 seconds

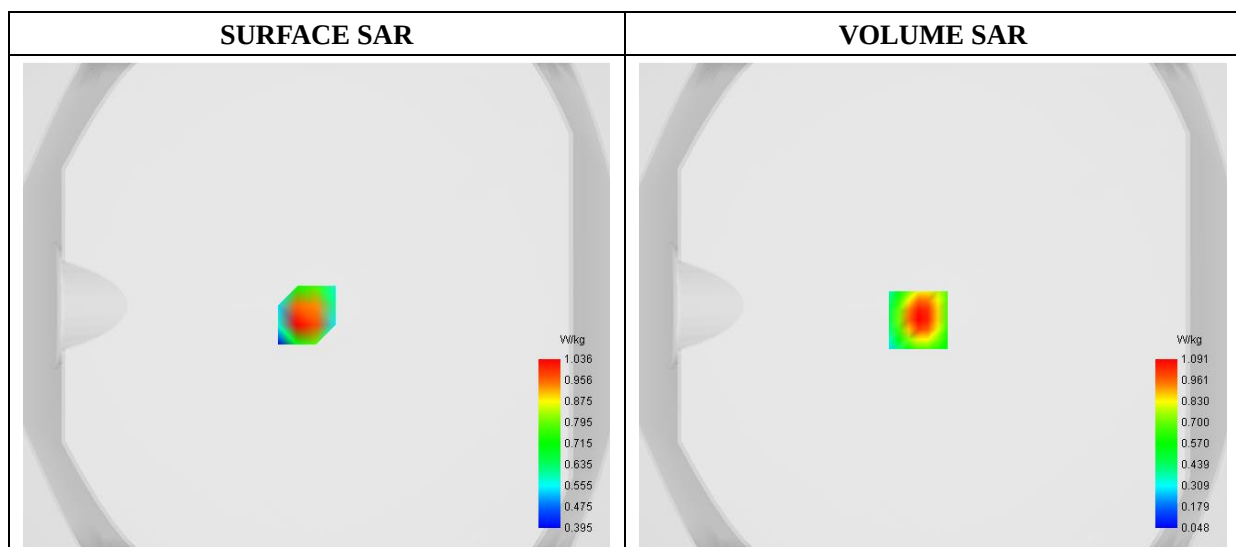
E-field Probe: SSE2 - SN 45/15 EPGO280; ConvF:2.39; Calibrated: 2019/07/08

A. Experimental conditions

Area Scan	dx=8mm dy=8mm
Zoom Scan	dx=8mm dy=8mm dz=5mm
Phantom	Flat Plane
Device Position	Back
Band	LTE Band 4
Channels	QPSK, 20MHz, 1RB, Low
Signal	Duty Cycle 1:1

B. SAR Measurement Results

Frequency (MHz)	1720.000000
Relative Permittivity (real part)	51.220432
Conductivity (S/m)	1.460124
Power Variation (%)	0.858383
Ambient Temperature	21.1
Liquid Temperature	21.2



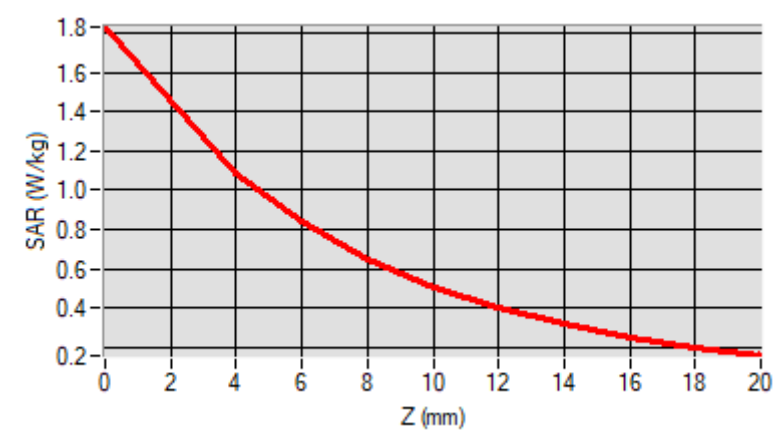
Maximum location: X=-6.00, Y=-6.00

D. SAR 1g & 10g

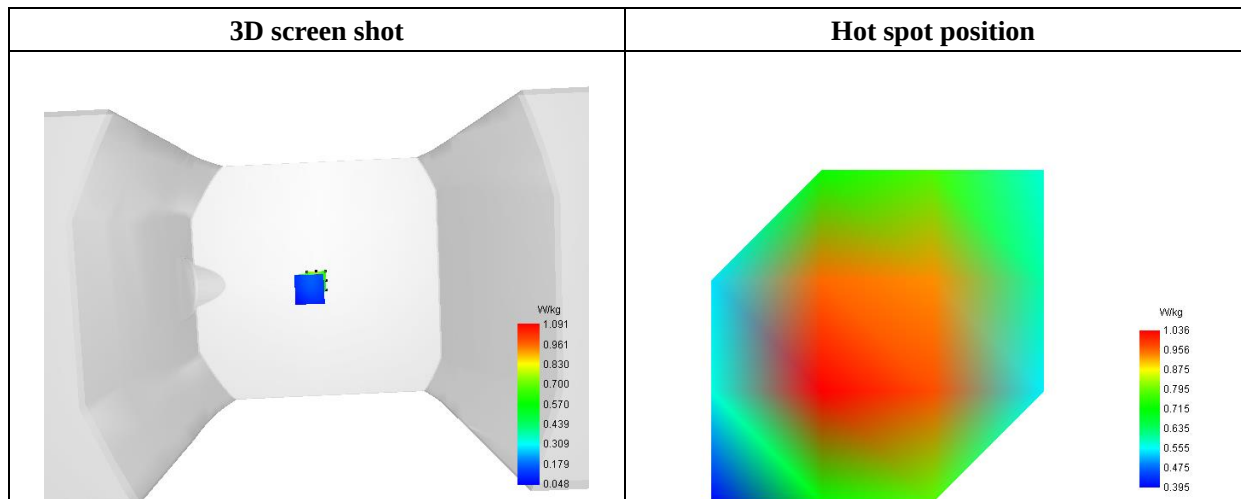
SAR 10g (W/Kg)	0.511690
SAR 1g (W/Kg)	1.014384

E. Z Axis Scan

Z (mm)	0.00	4.00	6.00	8.00	10.00	12.00	14.00	16.00	18.00
SAR (W/Kg)	1.8309	1.0911	0.8423	0.6510	0.5081	0.4004	0.3180	0.2536	0.2014



F. 3D Image



MEASUREMENT 42

Type: Phone measurement (Complete)

Date of measurement: 2020-04-28

Measurement duration: 12 minutes 3 seconds

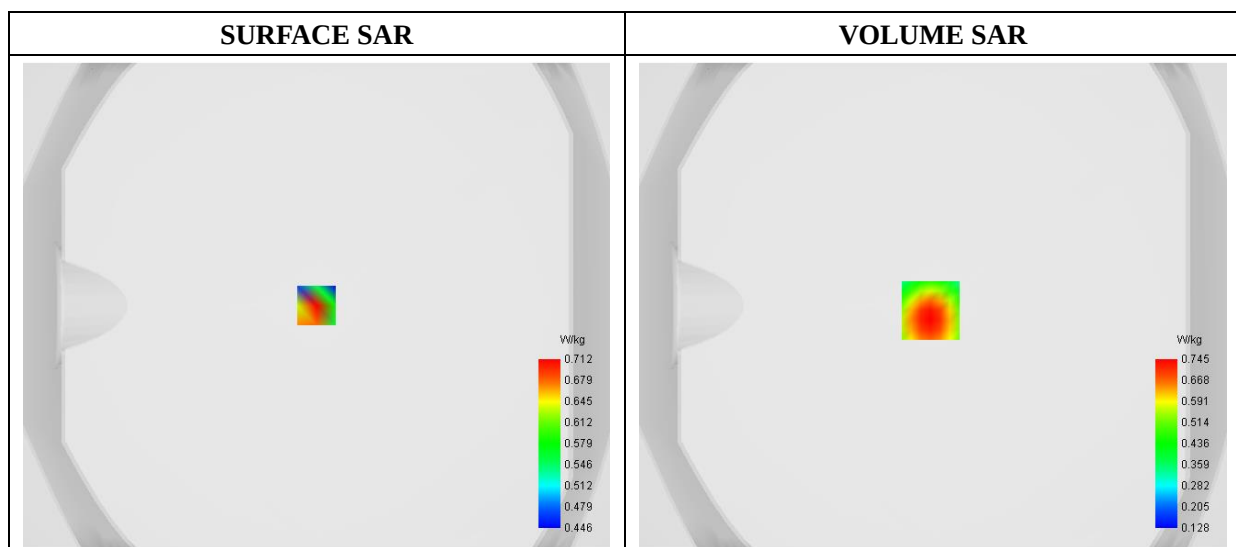
E-field Probe: SSE2 - SN 45/15 EPGO280; ConvF:2.39; Calibrated: 2019/07/08

A. Experimental conditions

Area Scan	dx=8mm dy=8mm
Zoom Scan	dx=8mm dy=8mm dz=5mm
Phantom	Flat Plane
Device Position	Back
Band	LTE Band 5_RMC
Channels	QPSK, 10MHz, 1RB, High
Signal	Duty Cycle 1:1

B. SAR Measurement Results

Frequency (MHz)	844.000000
Relative Permittivity (real part)	54.851214
Conductivity (S/m)	0.951454
Power Variation (%)	1.037332
Ambient Temperature	21.1
Liquid Temperature	21.2



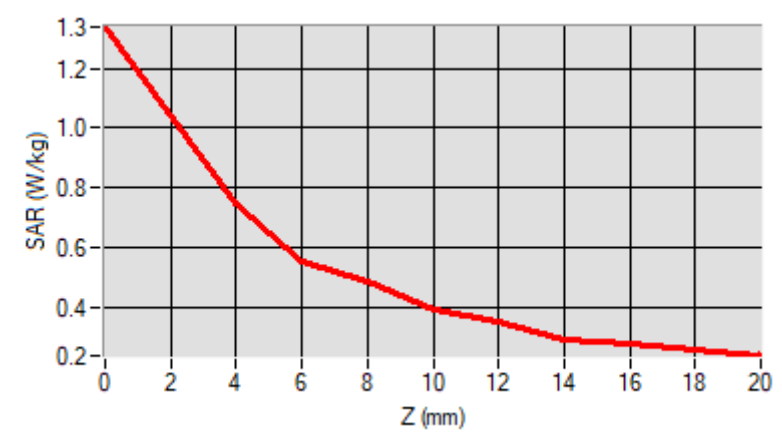
Maximum location: X=-1.00, Y=-2.00

D. SAR 1g & 10g

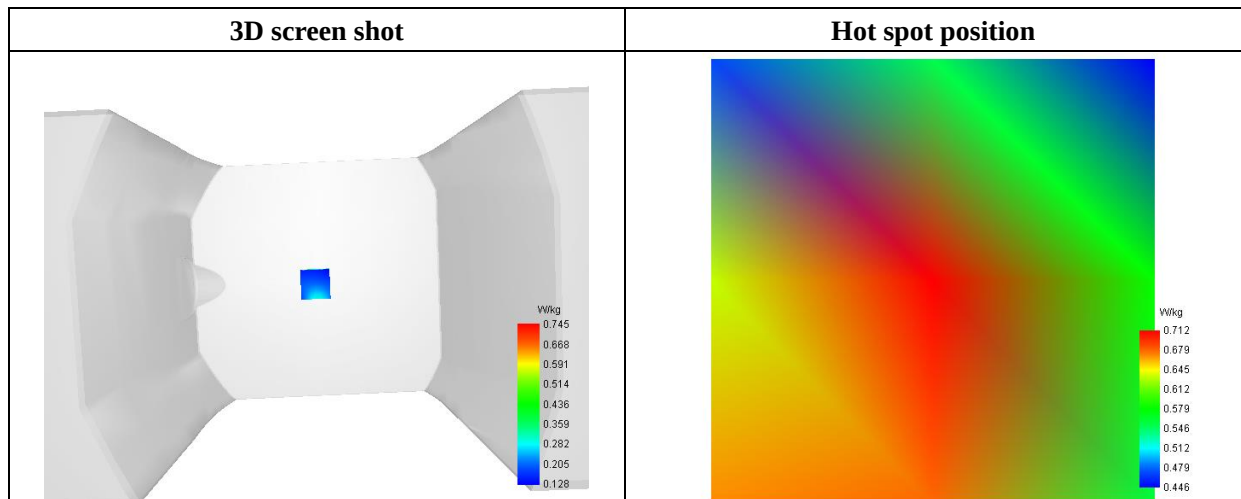
SAR 10g (W/Kg)	0.435130
SAR 1g (W/Kg)	0.749999

E. Z Axis Scan

Z (mm)	0.00	4.00	6.00	8.00	10.00	12.00	14.00	16.00	18.00
SAR (W/Kg)	1.3383	0.7452	0.5546	0.4862	0.3915	0.3499	0.2877	0.2789	0.2558



F. 3D Image



MEASUREMENT 44

Type: Phone measurement (Complete)

Date of measurement: 2020-05-14

Measurement duration: 12 minutes 3 seconds

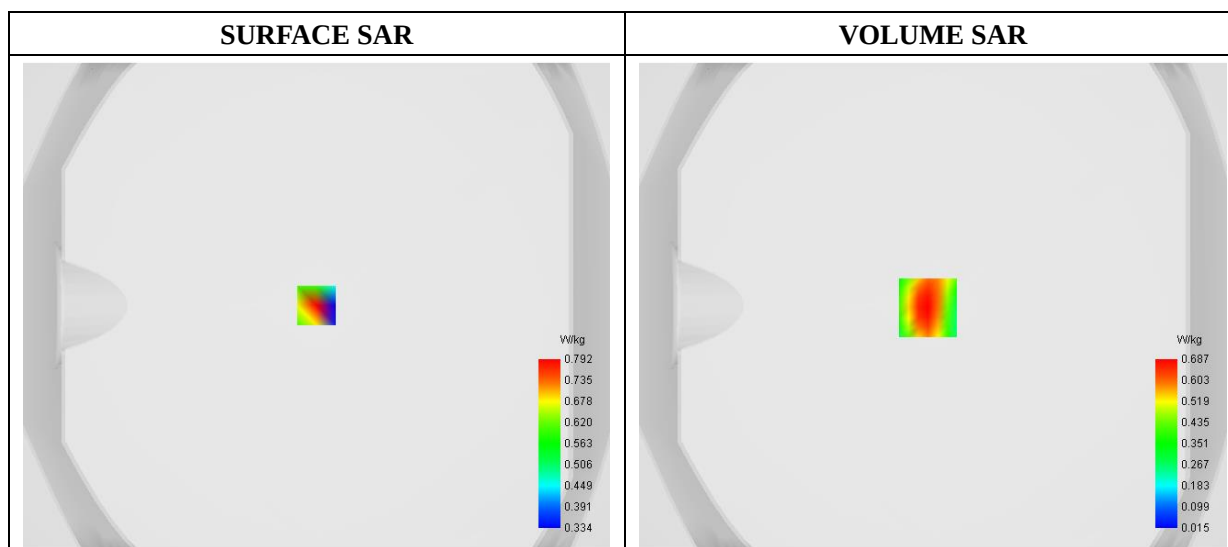
E-field Probe: SSE2 - SN 45/15 EPGO280; ConvF:2.39; Calibrated: 2019/07/08

A. Experimental conditions

Area Scan	dx=8mm dy=8mm
Zoom Scan	dx=8mm dy=8mm dz=5mm
Phantom	Flat Plane
Device Position	Back
Band	LTE Band 7_RMC
Channels	QPSK, 20MHz, 1RB, Middle
Signal	Duty Cycle 1:1

B. SAR Measurement Results

Frequency (MHz)	2535.000000
Relative Permittivity (real part)	52.241202
Conductivity (S/m)	2.120943
Power Variation (%)	3.672346
Ambient Temperature	21.1
Liquid Temperature	21.2



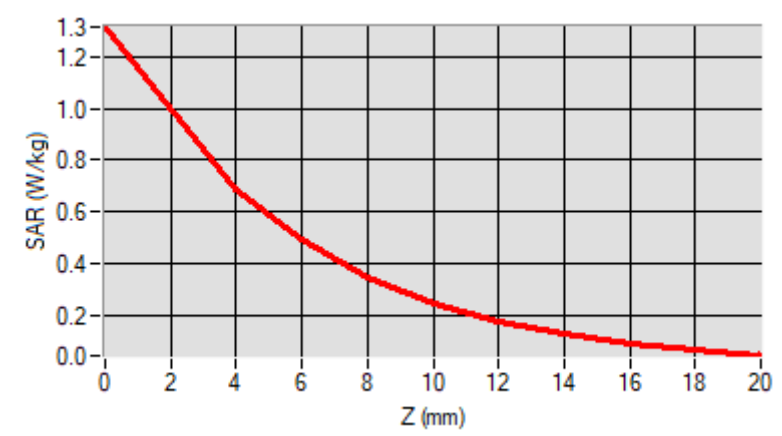
Maximum location: X=-2.00, Y=-1.00

D. SAR 1g & 10g

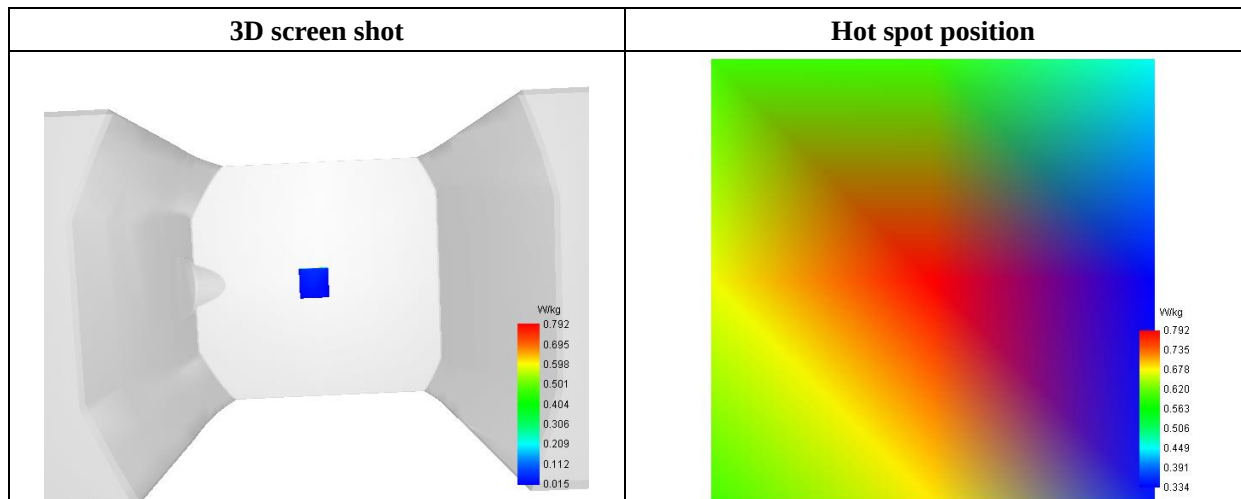
SAR 10g (W/Kg)	0.301185
SAR 1g (W/Kg)	0.646510

E. Z Axis Scan

Z (mm)	0.00	4.00	6.00	8.00	10.00	12.00	14.00	16.00	18.00
SAR (W/Kg)	1.3146	0.6873	0.4903	0.3473	0.2474	0.1774	0.1280	0.0922	0.0655



F. 3D Image



MEASUREMENT 46

Type: Phone measurement (Complete)

Date of measurement: 2020-04-27

Measurement duration: 12 minutes 3 seconds

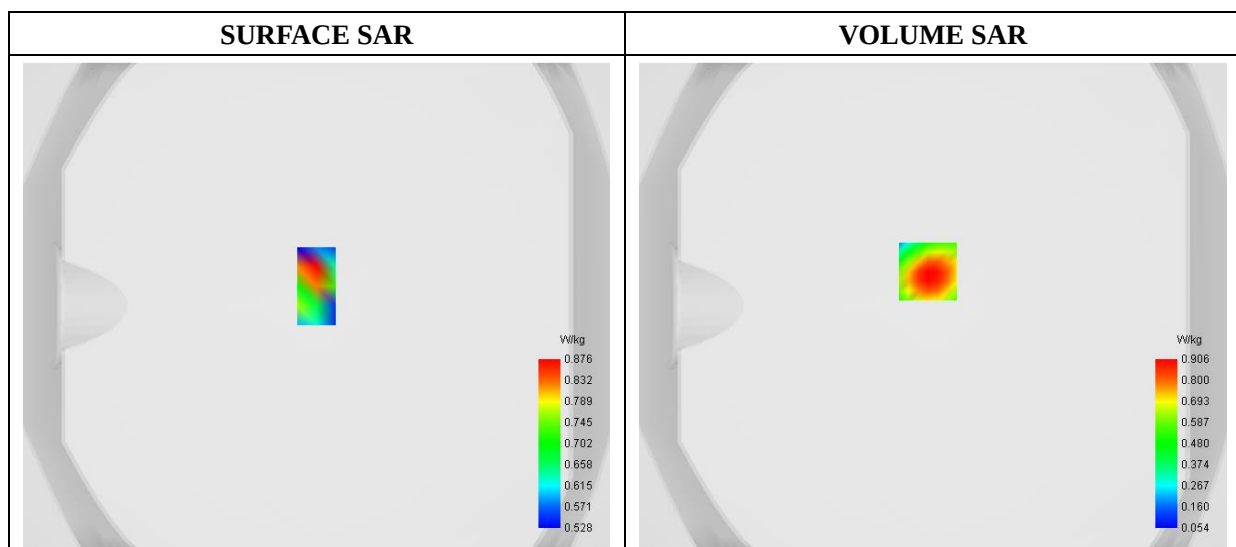
E-field Probe: SSE2 - SN 45/15 EPGO280; ConvF:2.39; Calibrated: 2019/07/08

A. Experimental conditions

Area Scan	dx=8mm dy=8mm
Zoom Scan	dx=8mm dy=8mm dz=5mm
Phantom	Flat Plane
Device Position	Back
Band	LTE Band 17_RMC
Channels	QPSK, 5MHz, 1RB, High
Signal	Duty Cycle 1:1

B. SAR Measurement Results

Frequency (MHz)	711.000000
Relative Permittivity (real part)	54.964739
Conductivity (S/m)	0.931048
Power Variation (%)	3.108329
Ambient Temperature	21.1
Liquid Temperature	21.2



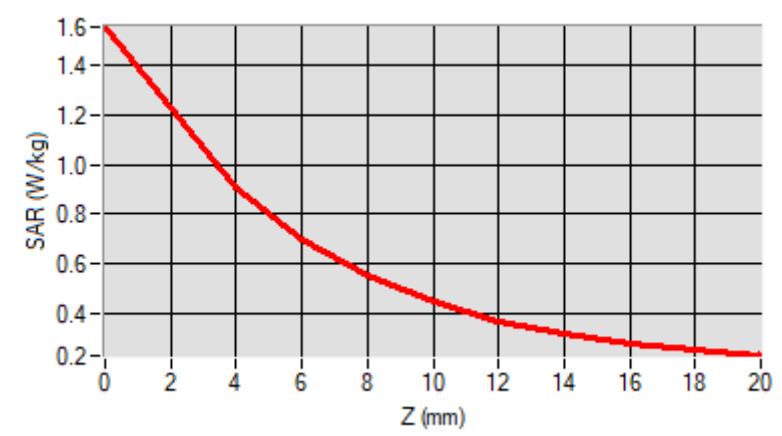
Maximum location: X=-2.00, Y=14.00

D. SAR 1g & 10g

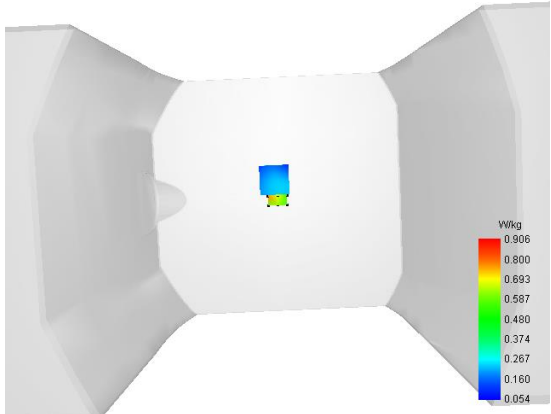
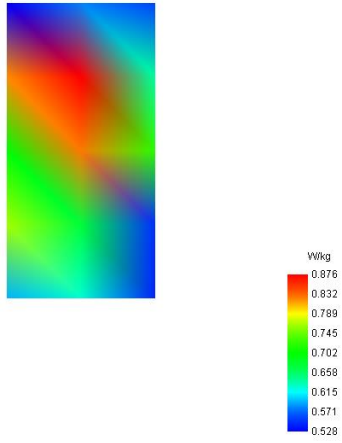
SAR 10g (W/Kg)	0.511836
SAR 1g (W/Kg)	0.936241

E. Z Axis Scan

Z (mm)	0.00	4.00	6.00	8.00	10.00	12.00	14.00	16.00	18.00
SAR (W/Kg)	1.5542	0.9064	0.7001	0.5488	0.4429	0.3688	0.3168	0.2795	0.2514



F. 3D Image

3D screen shot	Hot spot position
	

MEASUREMENT 50

Type: Phone measurement (Complete)

Date of measurement: 2020-05-14

Measurement duration: 12 minutes 3 seconds

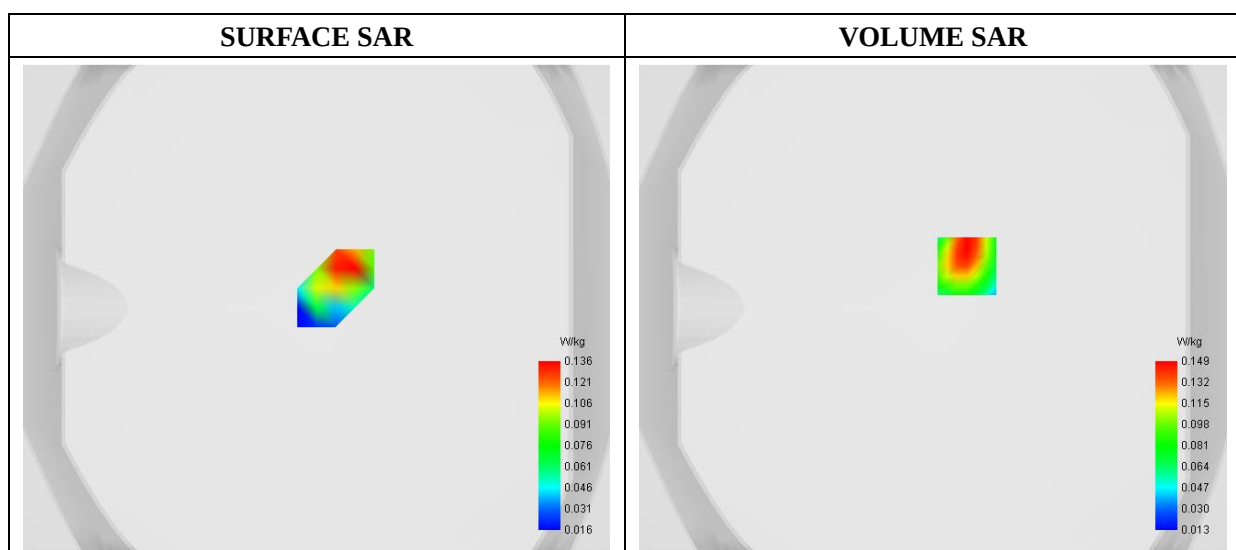
E-field Probe: SSE2 - SN 45/15 EPGO280; ConvF:2.39; Calibrated: 2019/07/08

A. Experimental conditions

Area Scan	dx=8mm dy=8mm
Zoom Scan	dx=8mm dy=8mm dz=5mm
Phantom	Flat Plane
Device Position	Back
Band	WiFi_802.11b
Channels	Middle
Signal	Duty Cycle 1:1

B. SAR Measurement Results

Frequency (MHz)	2412.000000
Relative Permittivity (real part)	52.010212
Conductivity (S/m)	1.910255
Power Variation (%)	2.492743
Ambient Temperature	21.1
Liquid Temperature	21.2



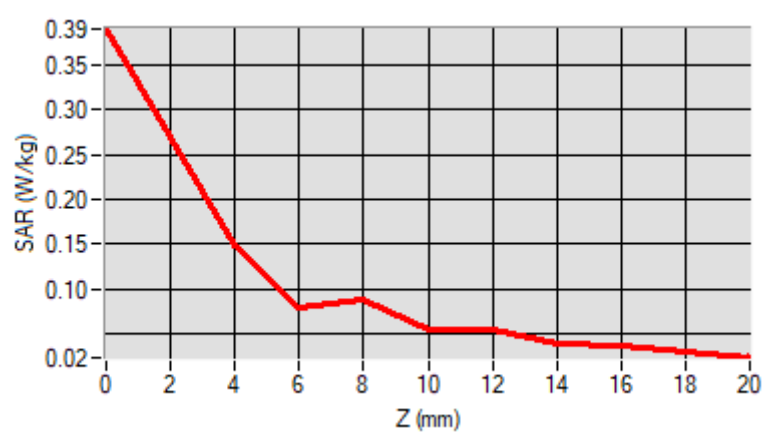
Maximum location: X=14.00, Y=17.00

D. SAR 1g & 10g

SAR 10g (W/Kg)	0.072545
SAR 1g (W/Kg)	0.140076

E. Z Axis Scan

Z (mm)	0.00	4.00	6.00	8.00	10.00	12.00	14.00	16.00	18.00
SAR (W/Kg)	0.3894	0.1488	0.0805	0.0898	0.0544	0.0564	0.0393	0.0370	0.0300



F. 3D Image

3D screen shot	Hot spot position

Annex C. EUT Photos

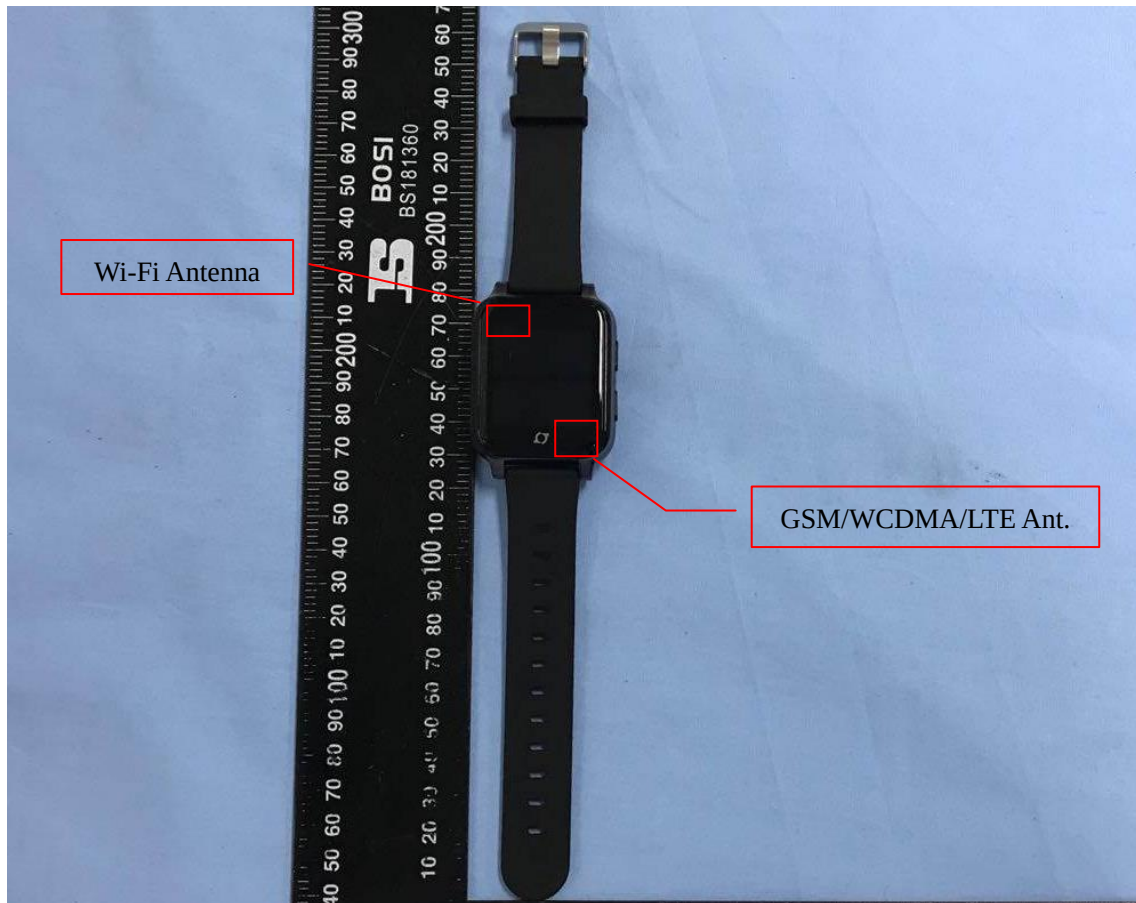
EUT View Front



EUT View Back



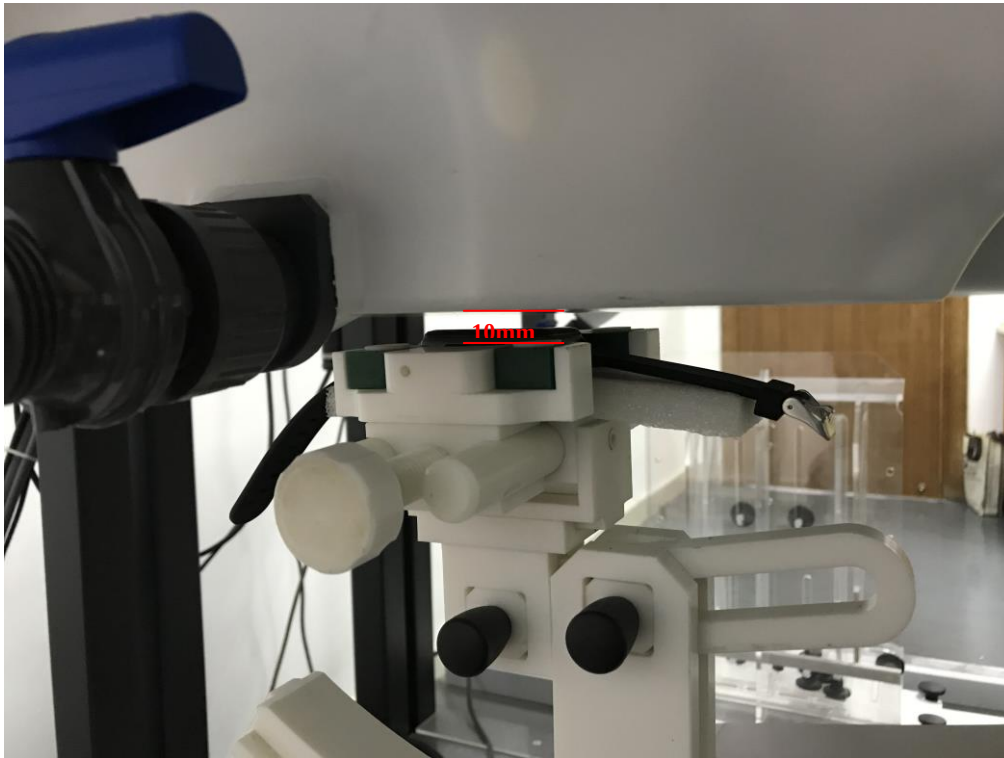
Antenna View



Annex D. Test Setup Photos

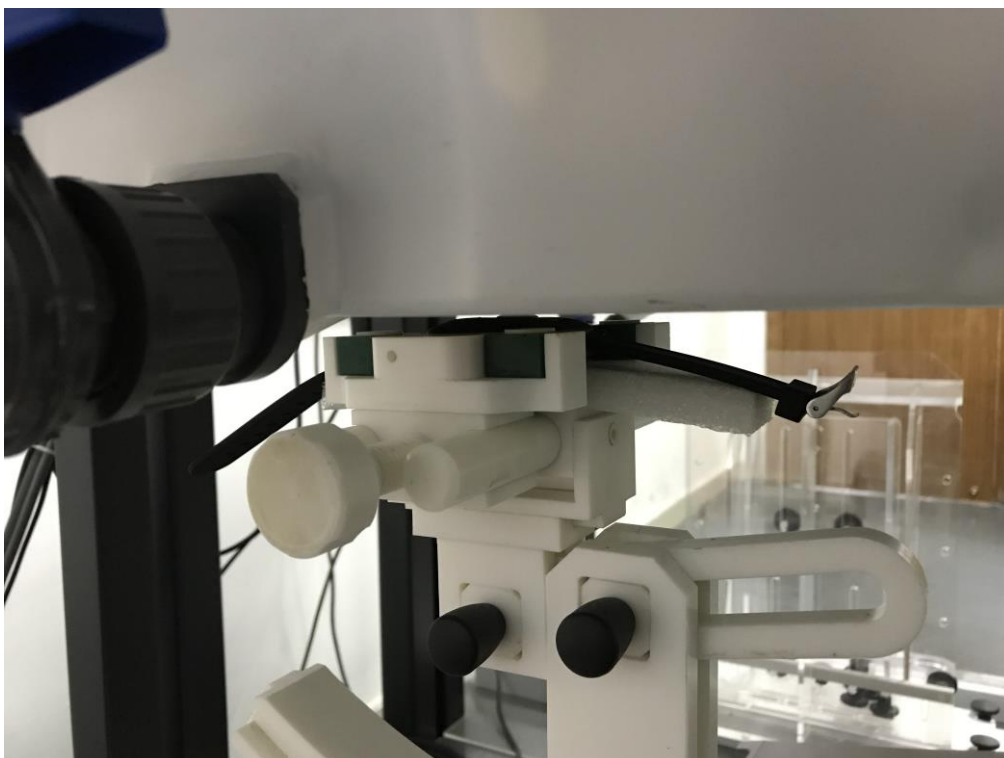
Near to Mouth Exposure Conditions

Body Front



Wrist-worn mode Exposure Conditions

Body Back



Annex E. Calibration Certificate

Please refer to the exhibit for the calibration certificate

******* END OF REPORT *******