

**Appendix A: SAR System performance Check Plots**

Measurement	Liquid	Frequency	Test Date
System Check	Head	835	2019-12-16
System Check	Body	835	2019-12-16
System Check	Head	1800	2019-12-17
System Check	Body	1800	2019-12-17
System Check	Head	1900	2019-12-18
System Check	Body	1900	2019-12-18
System Check	Head	2450	2019-12-19
System Check	Body	2450	2019-12-19
System Check	Head	2600	2019-12-20
System Check	Body	2600	2019-12-20
System Check	Head	5200	2019-12-21
System Check	Body	5200	2019-12-21
System Check	Head	5800	2019-12-24
System Check	Body	5800	2019-12-24

System Performance Check (Head, 835MHz)

Type: Phone measurement

Area scan resolution: dx=8mm,dy=8mm

Zoom scan resolution: dx=8mm, dy=8mm, dz=5mm

Date of measurement: 12/16/2019

Measurement duration: 22 minutes 04 seconds

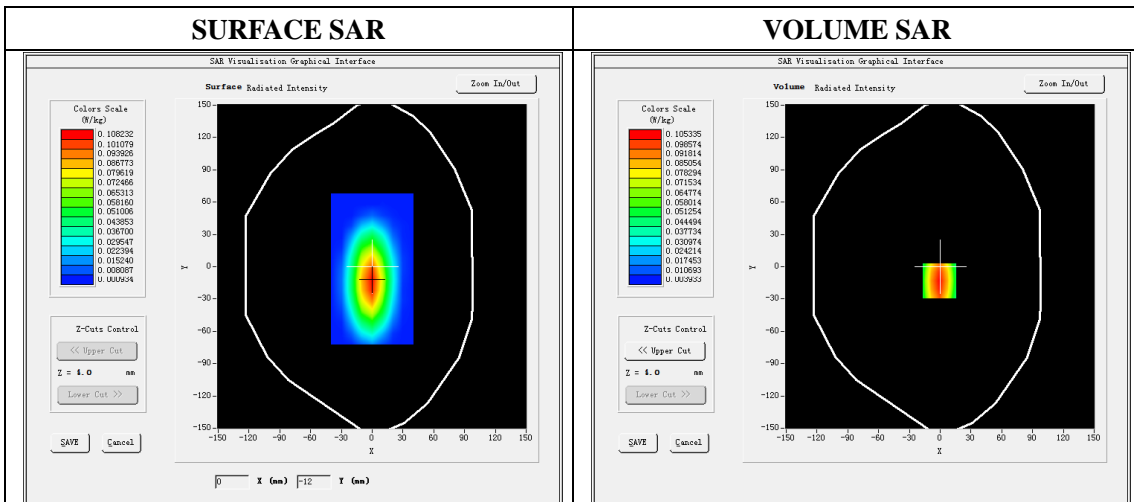
A. Experimental conditions.

Phantom File	dx=8mm dy=8mm
Phantom	5x5x7,dx=8mm dy=8mm dz=5mm
Device Position	Dipole
Band	835MHz
Channels	
Signal	CW

B. SAR Measurement Results

Band SAR

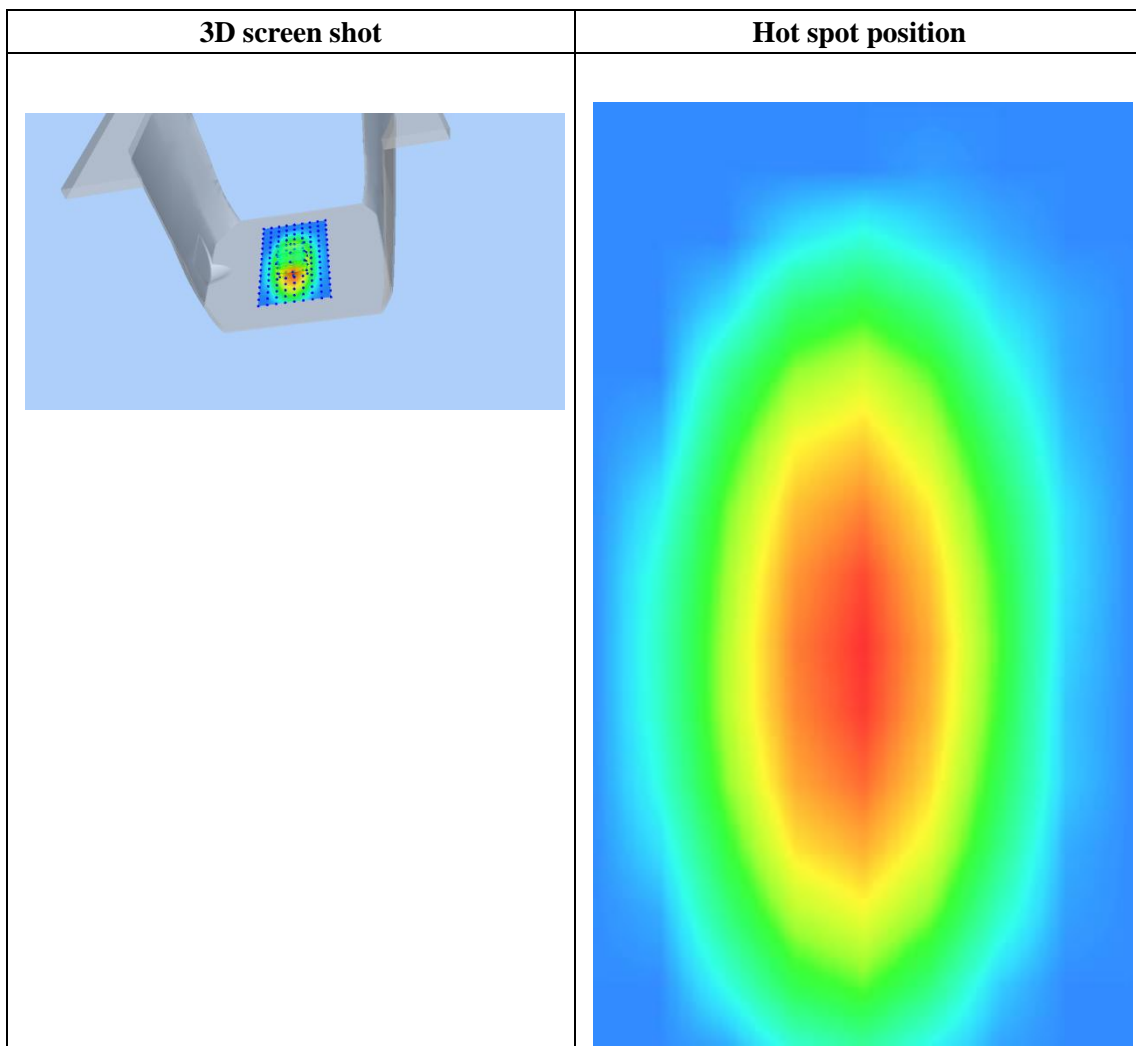
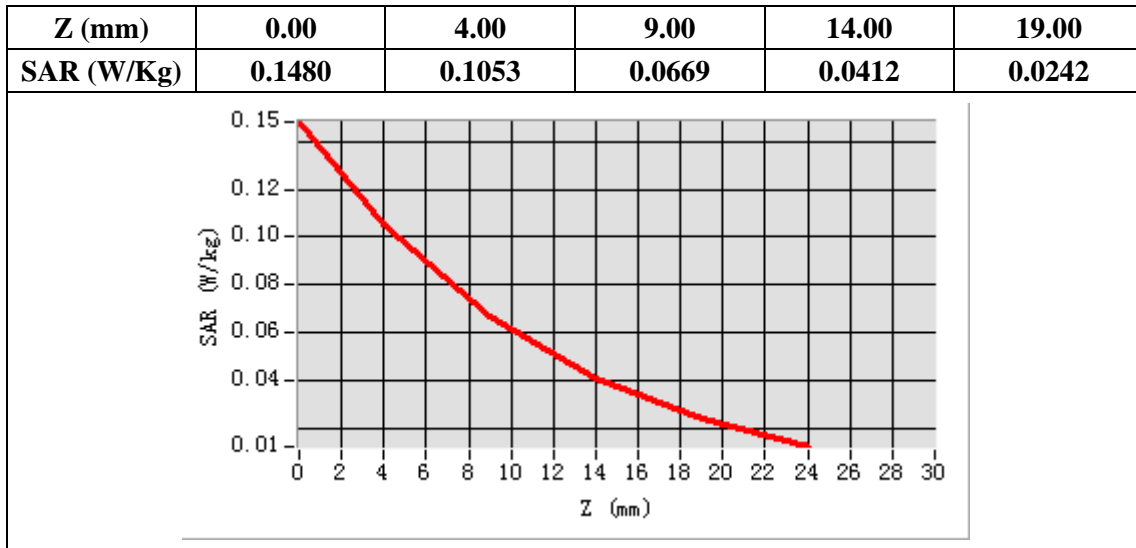
E-Field Probe	SATIMO SN_27/15_EPG0261
Frequency (MHz)	835
Relative permittivity (real part)	41.58
Relative permittivity	20.05
Conductivity (S/m)	0.93
Power drift (%)	-2.33
Ambient Temperature:	22.2°C
Liquid Temperature:	22.6°C
ConvF:	1.92
Crest factor:	1:1



Maximum location: X=-1.00, Y=-13.00

SAR Peak: 0.15 W/kg

SAR 10g (W/Kg)	0.058461
SAR 1g (W/Kg)	0.098813



System Performance Check (Body, 835MHz)

Type: Phone measurement

Area scan resolution: dx=8mm,dy=8mm

Zoom scan resolution: dx=8mm, dy=8mm, dz=5mm

Date of measurement: 12/16/2019

Measurement duration: 22 minutes 03 seconds

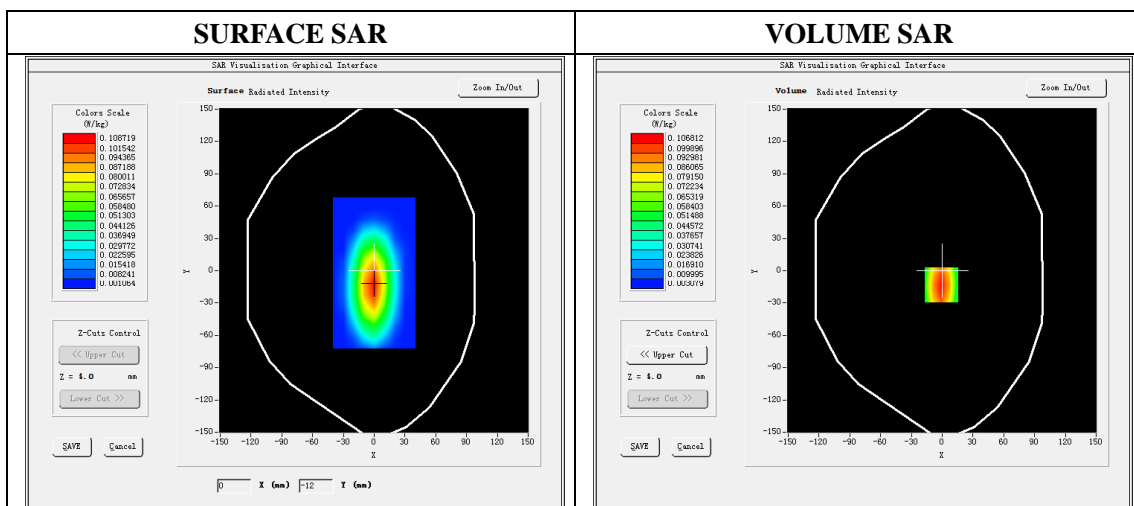
A. Experimental conditions.

Phantom File	dx=8mm dy=8mm
Phantom	5x5x7,dx=8mm dy=8mm dz=5mm
Device Position	Dipole
Band	835MHz
Channels	
Signal	CW

B. SAR Measurement Results

Band SAR

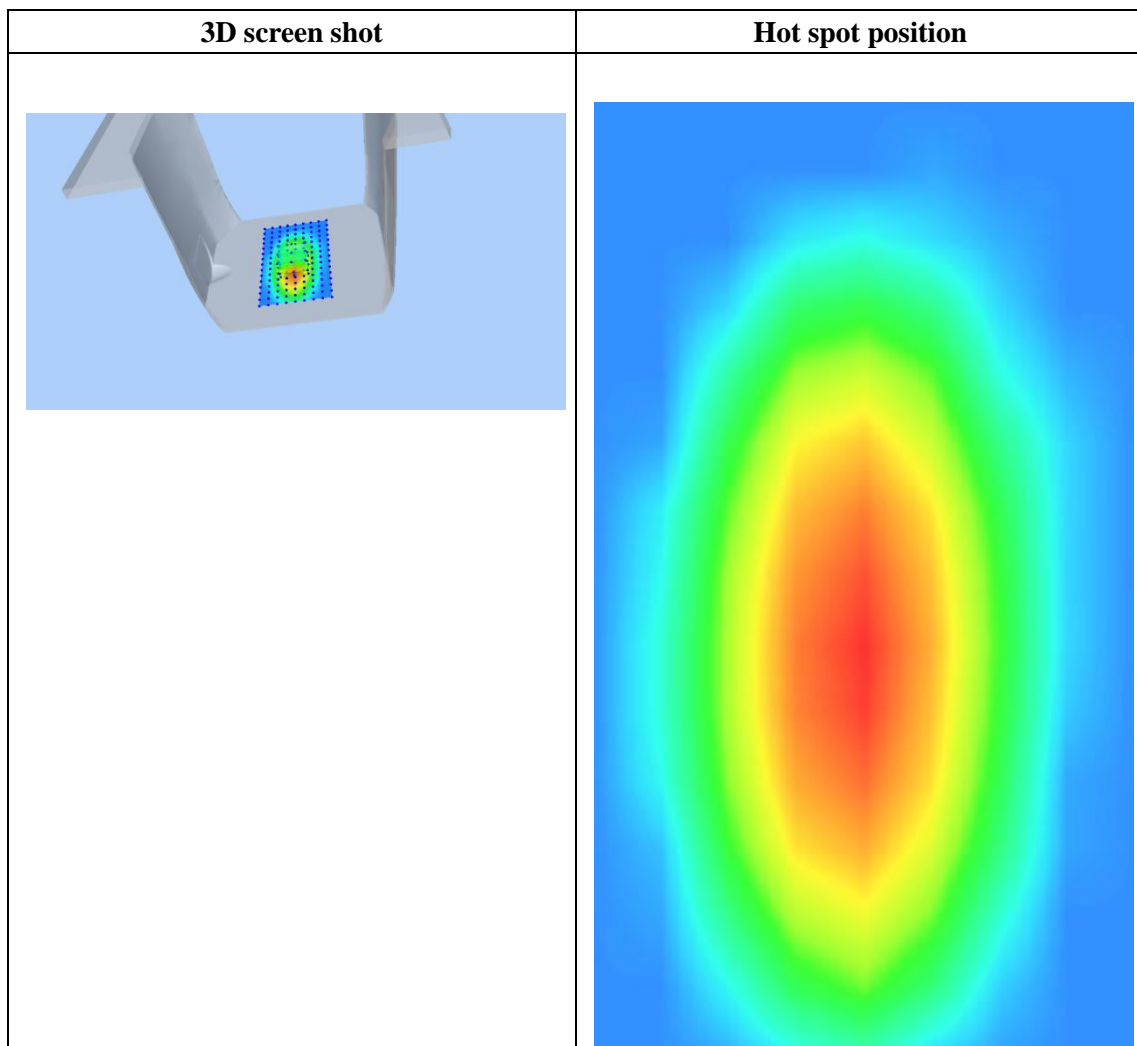
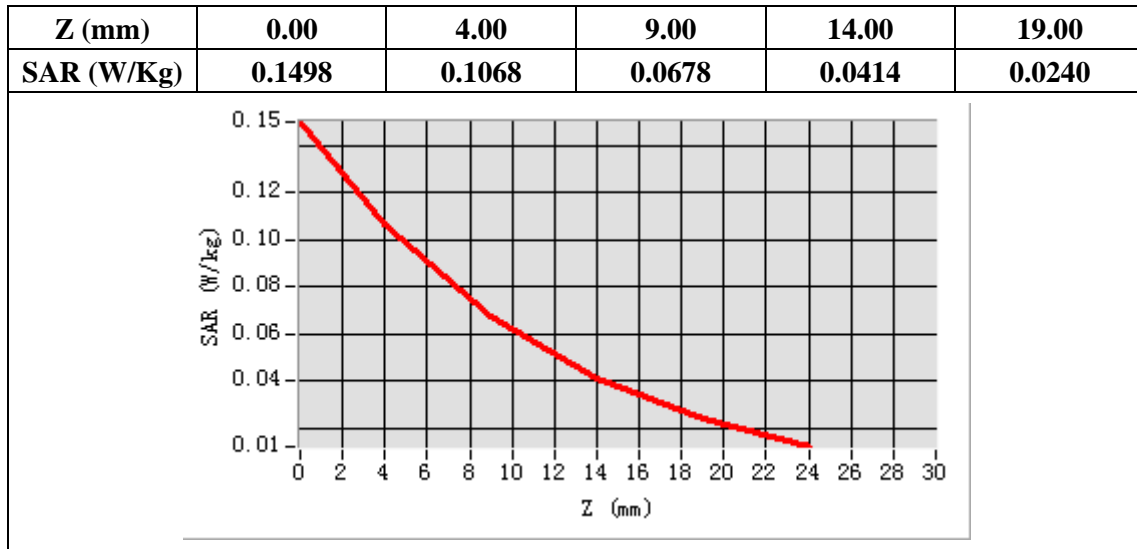
E-Field Probe	SATIMO SN_27/15_EPG0261
Frequency (MHz)	835
Relative permittivity (real part)	55.28
Relative permittivity	21.34
Conductivity (S/m)	0.99
Power drift (%)	-2.16
Ambient Temperature:	22.2°C
Liquid Temperature:	22.6°C
ConvF:	1.99
Crest factor:	1:1



Maximum location: X=-1.00, Y=-13.00

SAR Peak: 0.15 W/kg

SAR 10g (W/Kg)	0.059511
SAR 1g (W/Kg)	0.101892



System Performance Check (Head, 1800MHz)

Type: Validation measurement

Area scan resolution: dx=8mm,dy=8mm

Zoom scan resolution: dx=8mm, dy=8mm, dz=5mm

Date of measurement: 12/17/2019

Measurement duration: 22 minutes 08 seconds

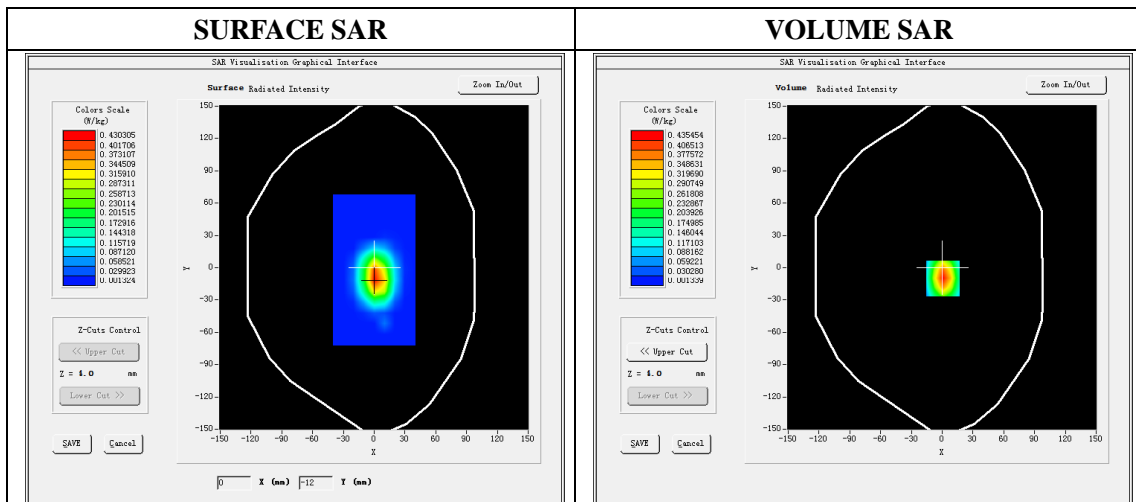
A. Experimental conditions.

Phantom File	dx=8mm dy=8mm
Phantom	5x5x7,dx=8mm dy=8mm dz=5mm
Device Position	Dipole
Band	1800MHz
Channels	
Signal	CW

B. SAR Measurement Results

Band SAR

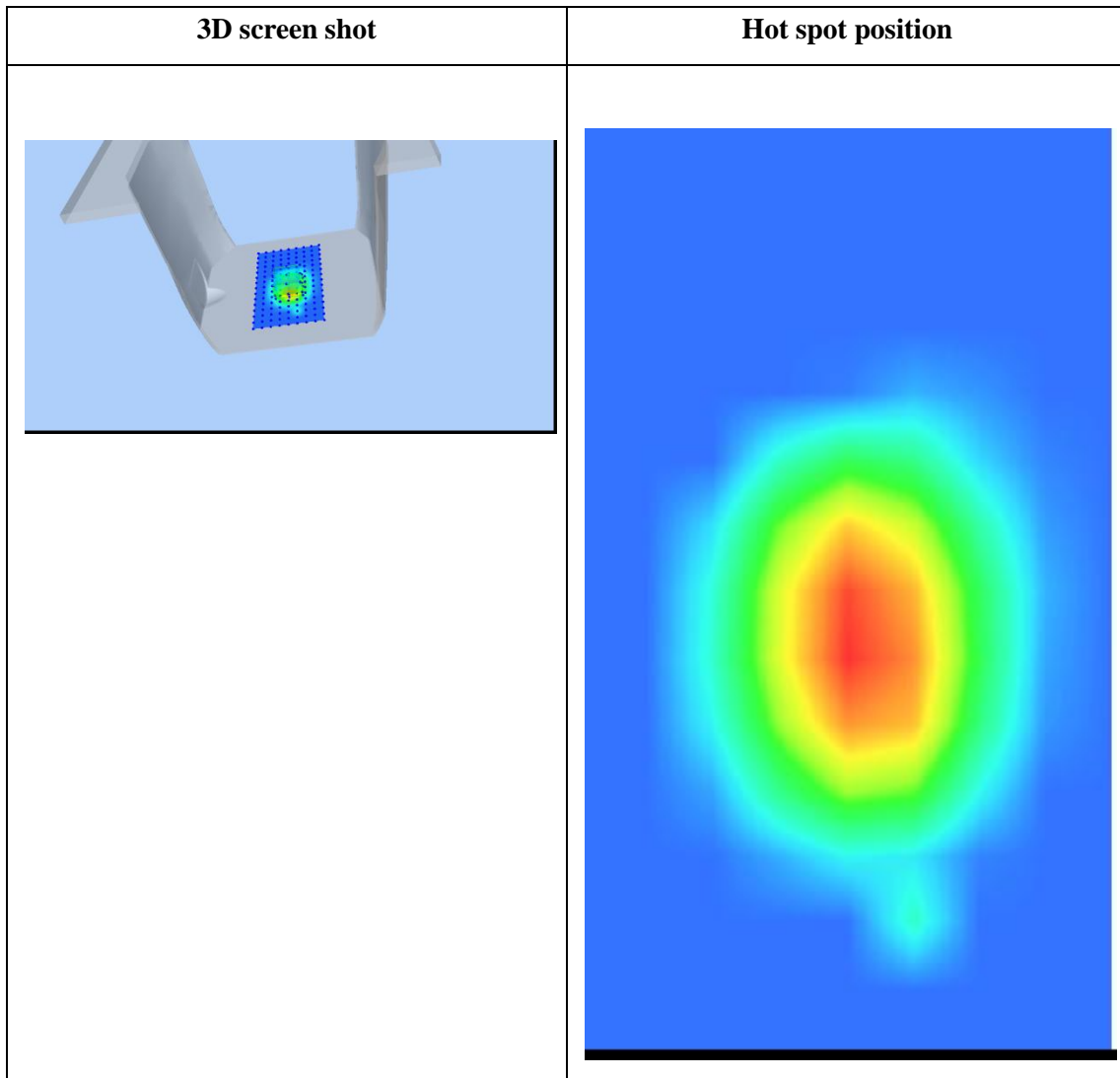
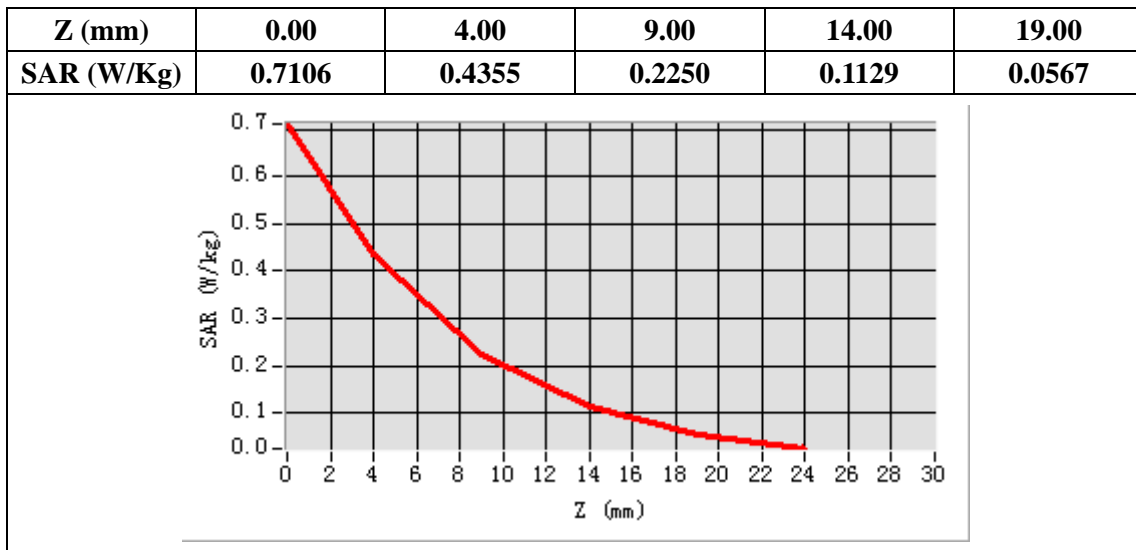
E-Field Probe	SATIMO SN_27/15_EPG0261
Frequency (MHz)	1800
Relative permittivity (real part)	40.46
Relative permittivity	14.20
Conductivity (S/m)	1.42
Power Drift (%)	-2.50
Ambient Temperature:	22.1 °C
Liquid Temperature:	22.6 °C
ConvF:	2.14
Duty factor:	1:1



Maximum location: X=1.00, Y=-10.00

SAR Peak: 0.71 W/kg

SAR 10g (W/Kg)	0.196797
SAR 1g (W/Kg)	0.405952



System Performance Check (Body, 1800MHz)

Type: Validation measurement

Area scan resolution: dx=8mm,dy=8mm

Zoom scan resolution: dx=8mm, dy=8mm, dz=5mm

Date of measurement: 12/17/2019

Measurement duration: 22 minutes 06 seconds

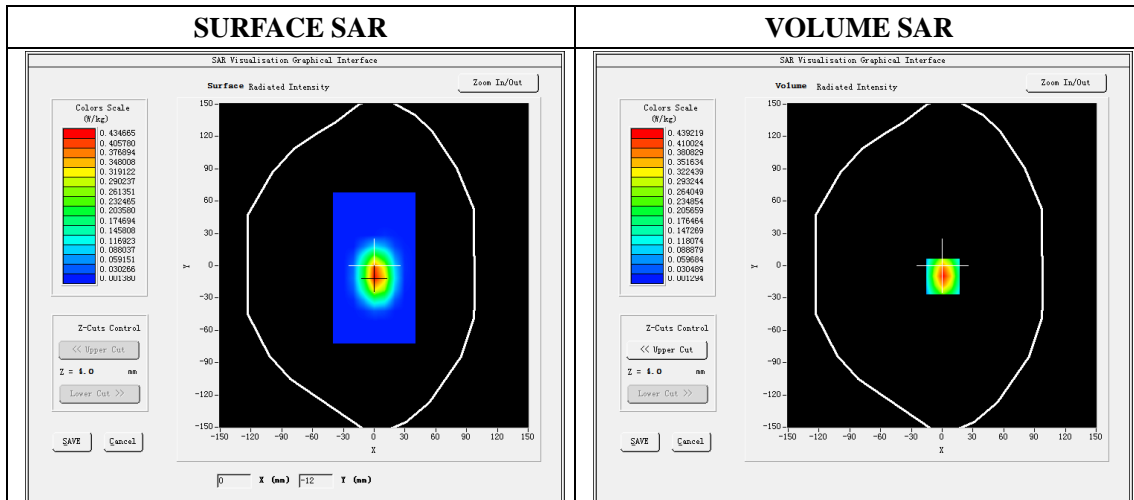
A. Experimental conditions.

Phantom File	dx=8mm dy=8mm
Phantom	5x5x7,dx=8mm dy=8mm dz=5mm
Device Position	Dipole
Band	1800MHz
Channels	
Signal	CW

B. SAR Measurement Results

Band SAR

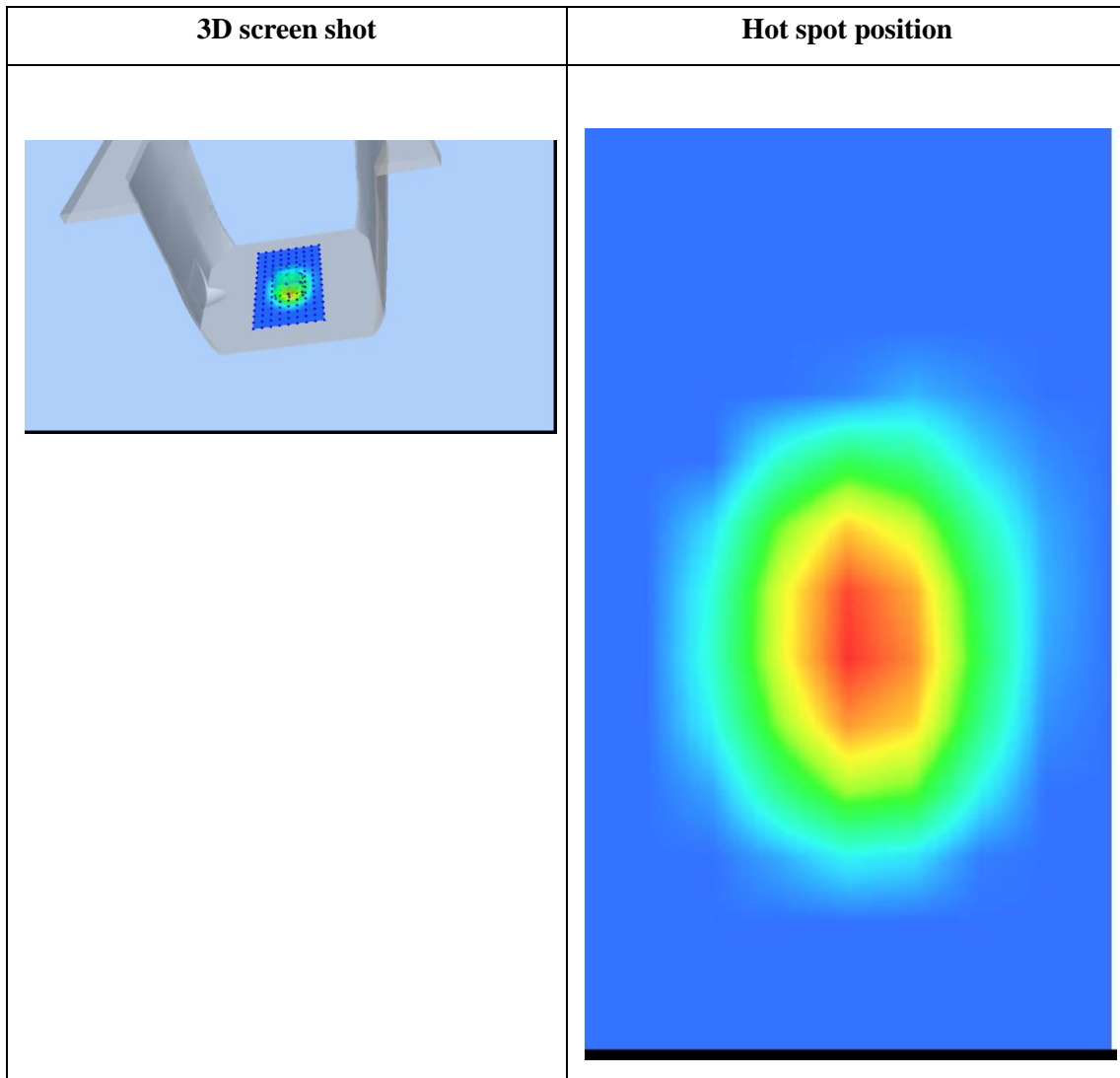
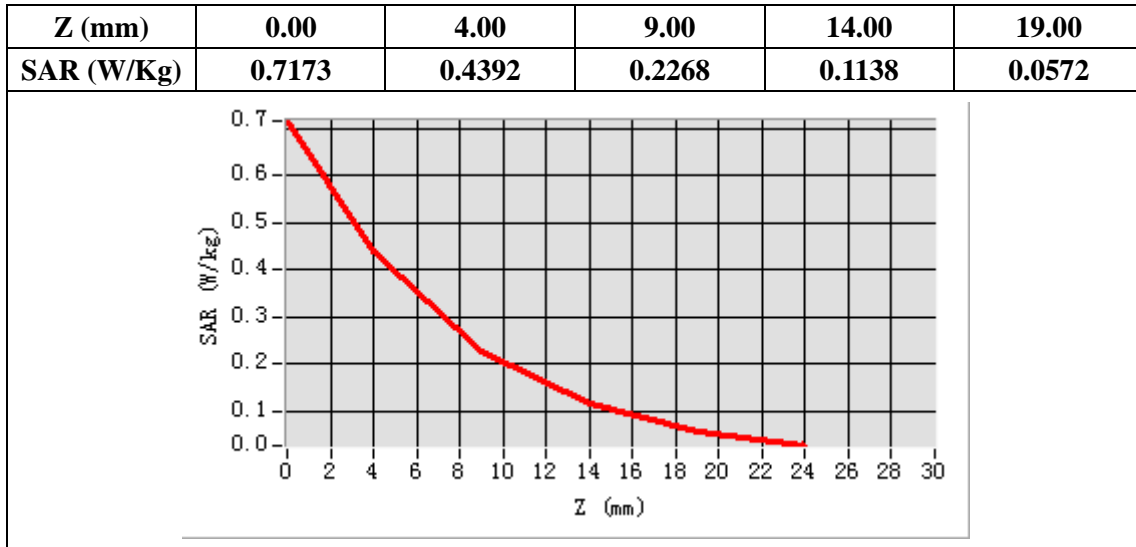
E-Field Probe	SATIMO SN_27/15_EPG0261
Frequency (MHz)	1800
Relative permittivity (real part)	53.47
Relative permittivity	15.30
Conductivity (S/m)	1.53
Power Drift (%)	-2.95
Ambient Temperature:	22.1 °C
Liquid Temperature:	22.6 °C
ConvF:	2.22
Duty factor:	1:1



Maximum location: X=1.00, Y=-10.00

SAR Peak: 0.72 W/kg

SAR 10g (W/Kg)	0.195907
SAR 1g (W/Kg)	0.403010



System Performance Check (Head, 1900MHz)

Type: Validation measurement

Area scan resolution: dx=8mm,dy=8mm

Zoom scan resolution: dx=8mm, dy=8mm, dz=5mm

Date of measurement: 12/18/2019

Measurement duration: 22 minutes 02 seconds

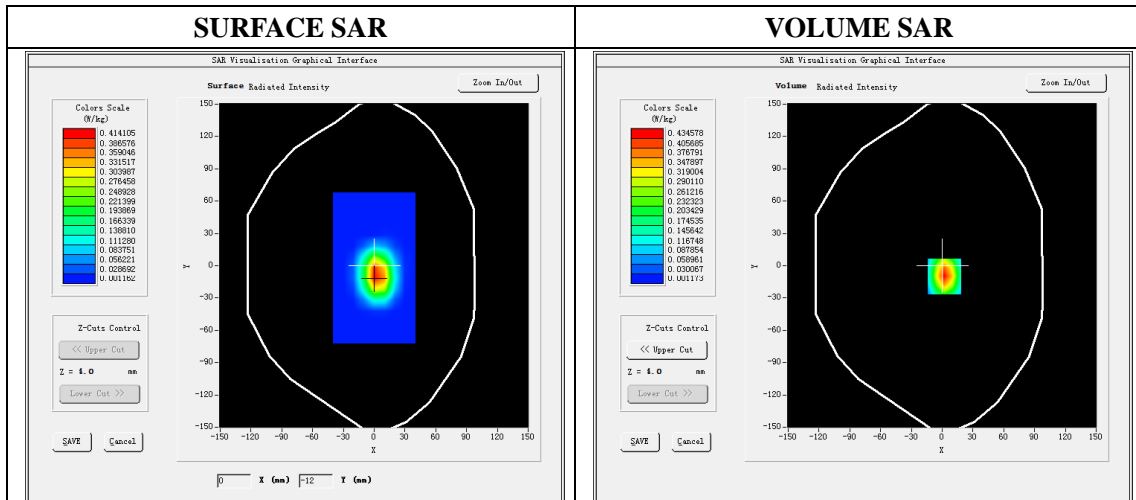
A. Experimental conditions.

Phantom File	dx=8mm dy=8mm
Phantom	5x5x7,dx=8mm dy=8mm dz=5mm
Device Position	Dipole
Band	1900MHz
Channels	
Signal	CW

B. SAR Measurement Results

Band SAR

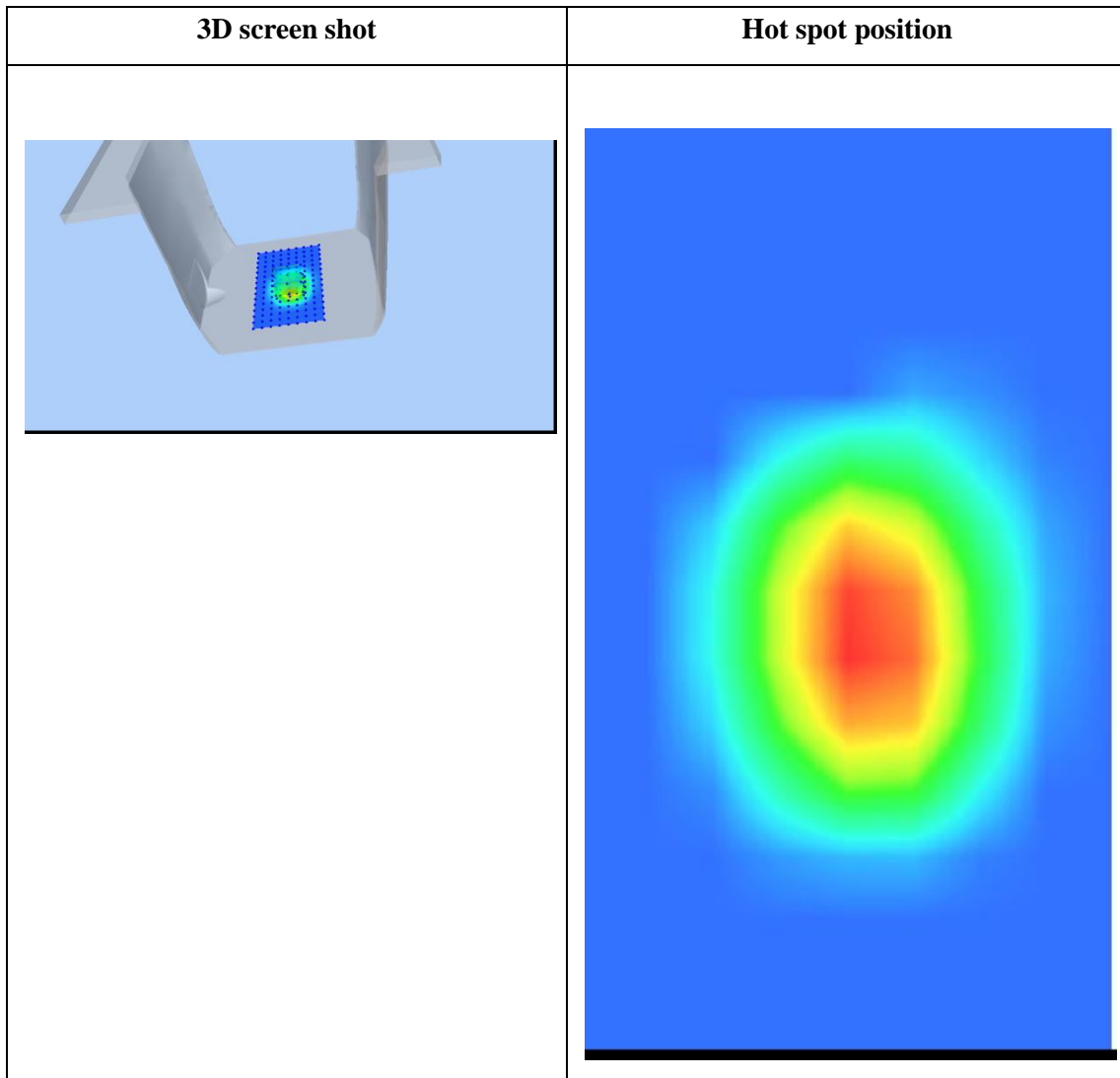
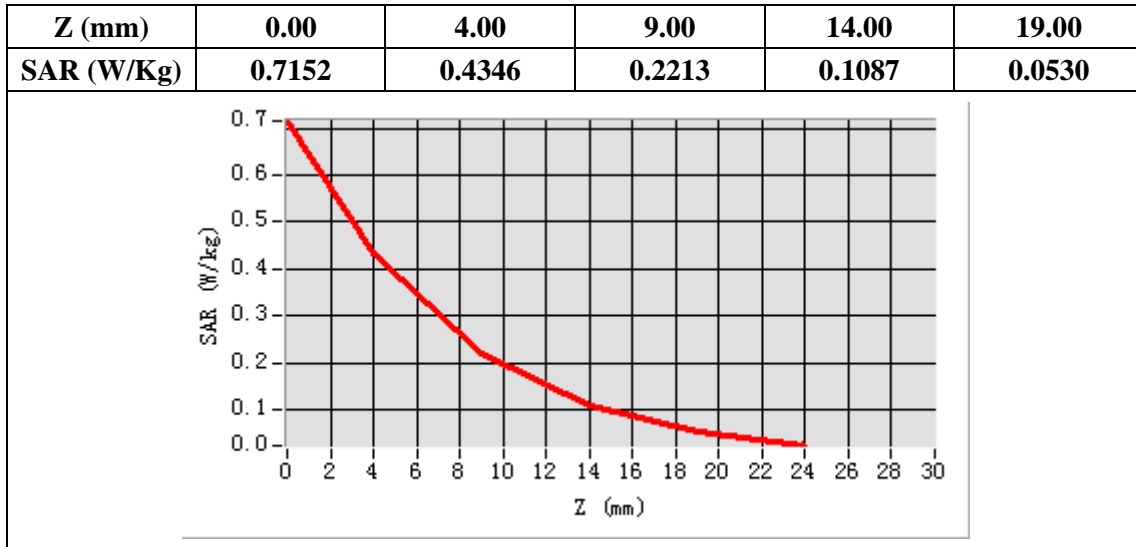
E-Field Probe	SATIMO SN_27/15_EPG0261
Frequency (MHz)	1900
Relative permittivity (real part)	40.39
Relative permittivity	13.36
Conductivity (S/m)	1.41
Power Drift (%)	-2.67
Ambient Temperature:	22.1 °C
Liquid Temperature:	22.6 °C
ConvF:	2.34
Duty factor:	1:1



Maximum location: X=-2.00, Y=-10.00

SAR Peak: 0.72 W/kg

SAR 10g (W/Kg)	0.190294
SAR 1g (W/Kg)	0.398384



System Performance Check (Body, 1900MHz)

Type: Validation measurement

Area scan resolution: dx=8mm,dy=8mm

Zoom scan resolution: dx=8mm, dy=8mm, dz=5mm

Date of measurement: 12/18/2019

Measurement duration: 22 minutes 09 seconds

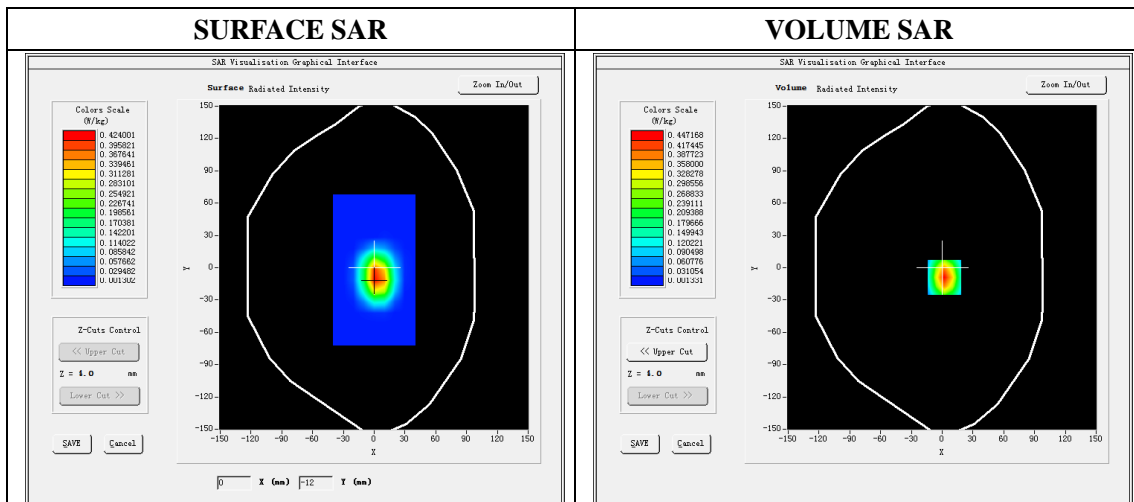
A. Experimental conditions.

Phantom File	dx=8mm dy=8mm
Phantom	5x5x7,dx=8mm dy=8mm dz=5mm
Device Position	Dipole
Band	1900MHz
Channels	
Signal	CW

B. SAR Measurement Results

Band SAR

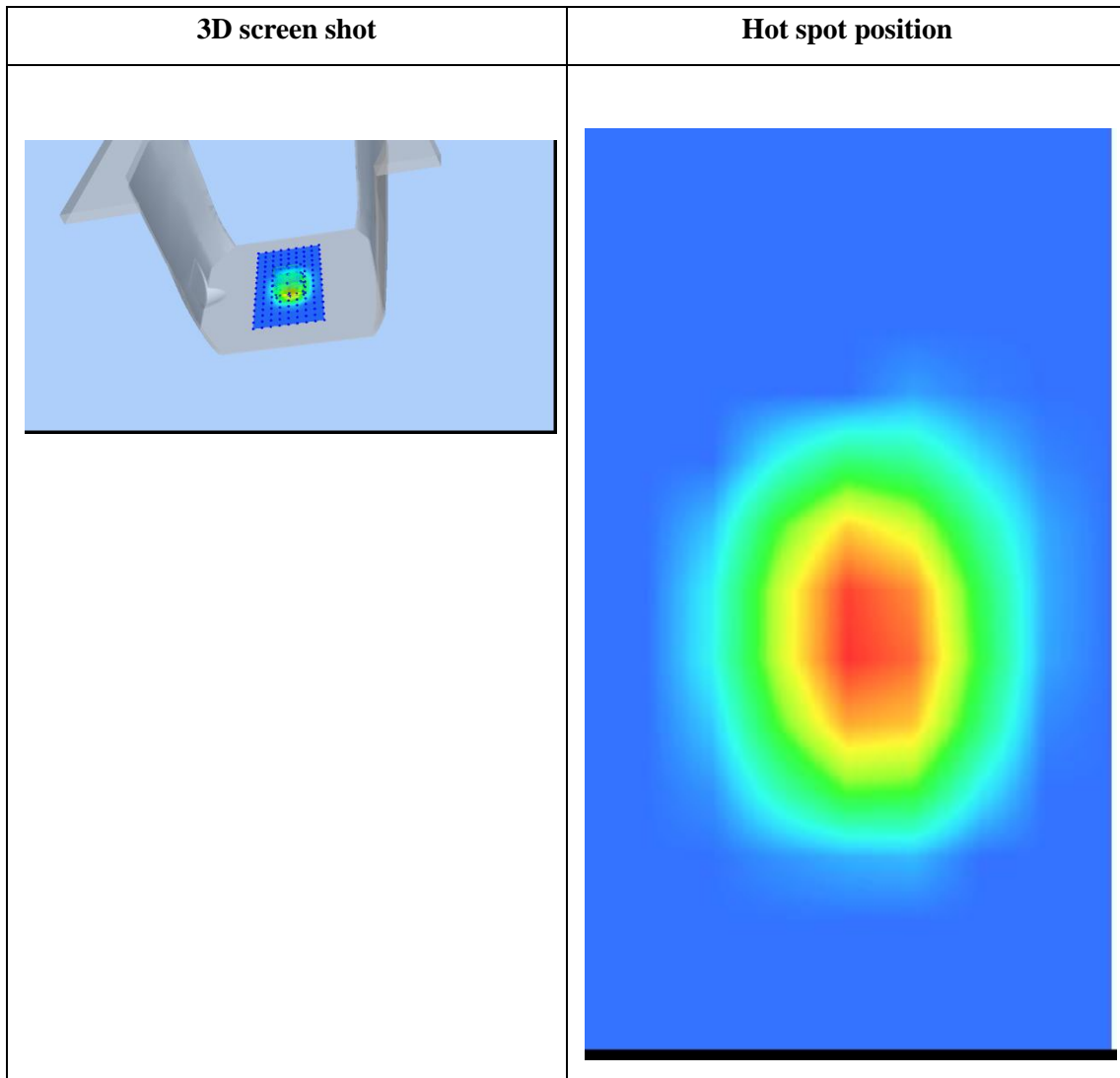
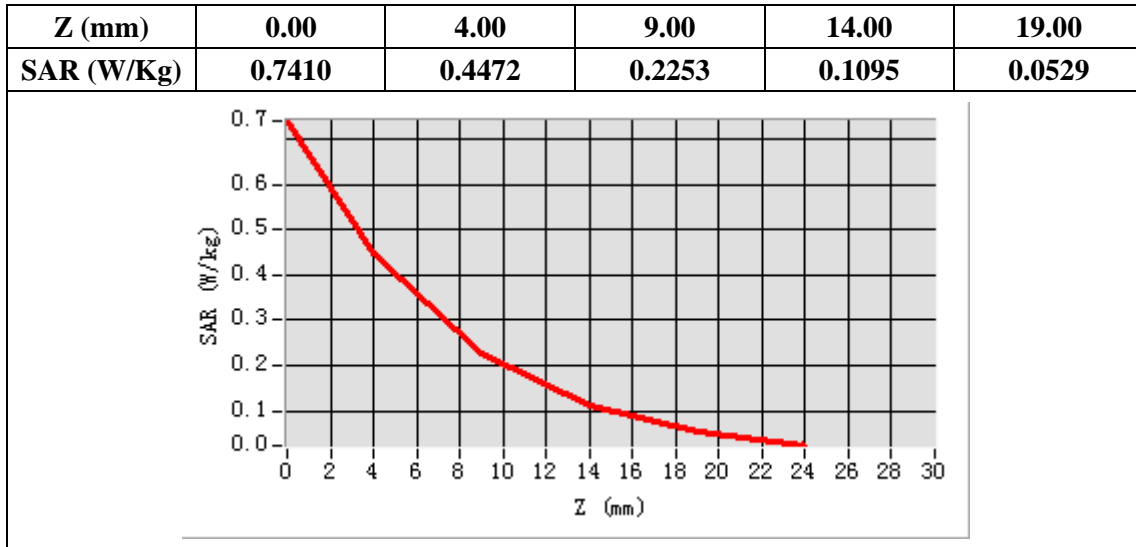
E-Field Probe	SATIMO SN_27/15_EPG0261
Frequency (MHz)	1900
Relative permittivity (real part)	53.40
Relative permittivity	14.40
Conductivity (S/m)	1.52
Power Drift (%)	-1.89
Ambient Temperature:	22.1 °C
Liquid Temperature:	22.6 °C
ConvF:	2.39
Duty factor:	1:1



Maximum location: X=2.00, Y=-9.00

SAR Peak: 0.74 W/kg

SAR 10g (W/Kg)	0.194266
SAR 1g (W/Kg)	0.408734



System Performance Check (Head, 2450MHz)

Type: Phone measurement

Area scan resolution: dx=8mm,dy=8mm

Zoom scan resolution: dx=5mm, dy=5mm, dz=4mm

Date of measurement: 12/19/2019

Measurement duration: 22 minutes 11 seconds

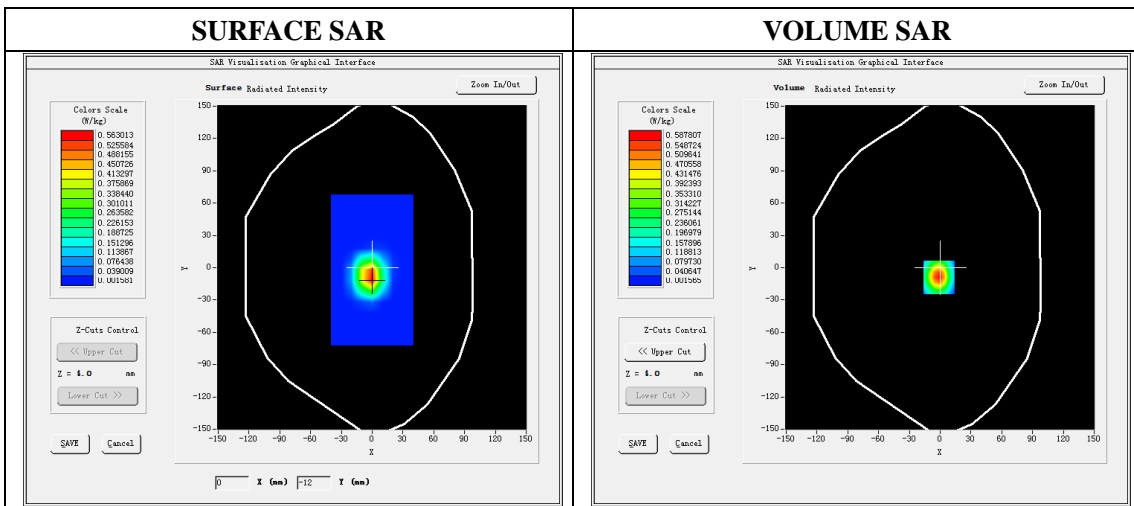
A. Experimental conditions.

Phantom File	dx=8mm dy=8mm
Phantom	7x7x8,dx=5mm dy=5mm dz=4mm
Device Position	Dipole
Band	2450MHz
Channels	
Signal	CW

B. SAR Measurement Results

Band SAR

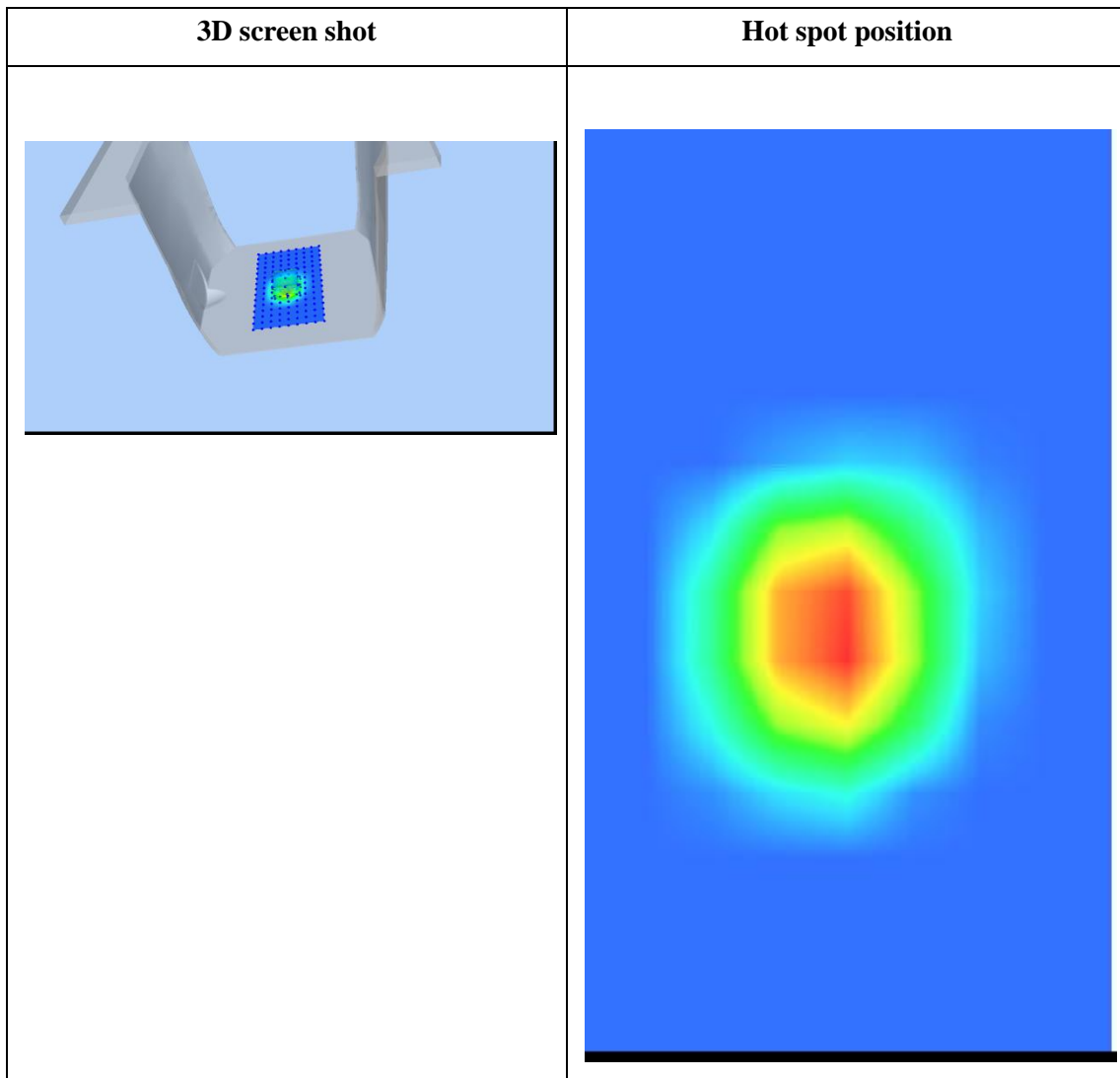
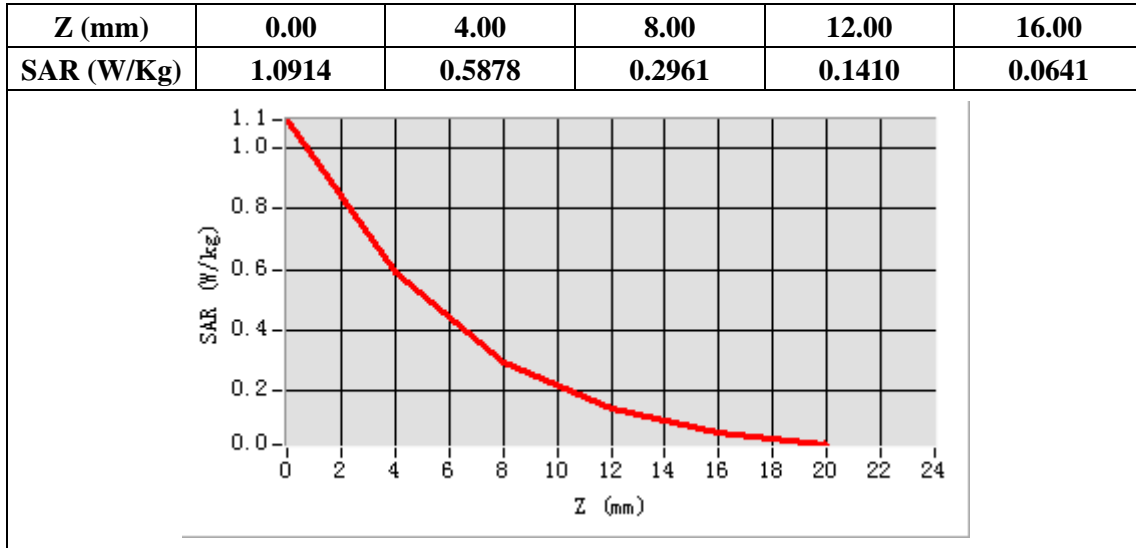
E-Field Probe	SATIMO SN_27/15_EPG0261
Frequency (MHz)	2450
Relative permittivity (real part)	39.31
Relative permittivity	13.37
Conductivity (S/m)	1.82
Power Drift (%)	-2.87
Ambient Temperature:	22.1°C
Liquid Temperature:	22.6°C
ConvF:	2.37
Duty factor:	1:1



Maximum location: X=-1.00, Y=-9.00

SAR Peak: 1.09 W/kg

SAR 10g (W/Kg)	0.219097
SAR 1g (W/Kg)	0.528326



System Performance Check (Body, 2450MHz)

Type: Phone measurement

Area scan resolution: dx=8mm,dy=8mm

Zoom scan resolution: dx=5mm, dy=5mm, dz=4mm

Date of measurement: 12/19/2019

Measurement duration: 22 minutes 13 seconds

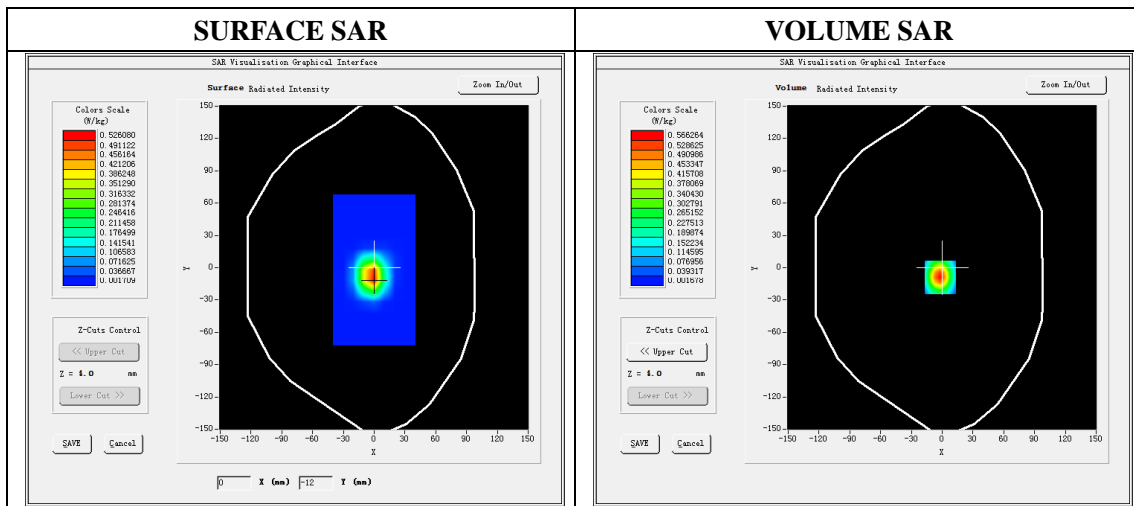
A. Experimental conditions.

Phantom File	dx=8mm dy=8mm
Phantom	7x7x8,dx=5mm dy=5mm dz=4mm
Device Position	Dipole
Band	2450MHz
Channels	
Signal	CW

B. SAR Measurement Results

Band SAR

E-Field Probe	SATIMO SN_27/15_EPG0261
Frequency (MHz)	2450
Relative permittivity (real part)	52.82
Relative permittivity	14.55
Conductivity (S/m)	1.98
Power Drift (%)	-2.97
Ambient Temperature:	22.1°C
Liquid Temperature:	22.6°C
ConvF:	2.46
Duty factor:	1:1

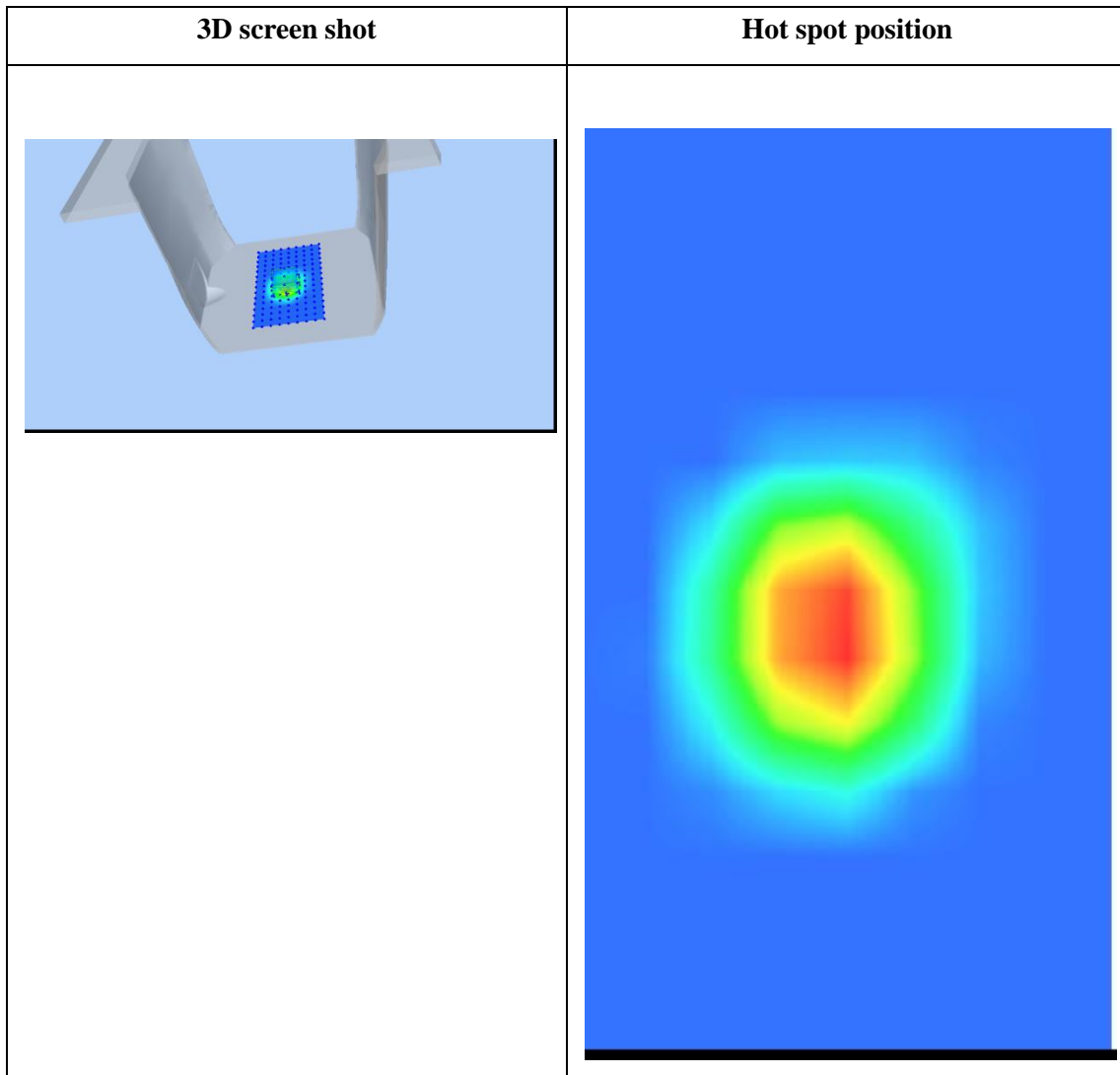
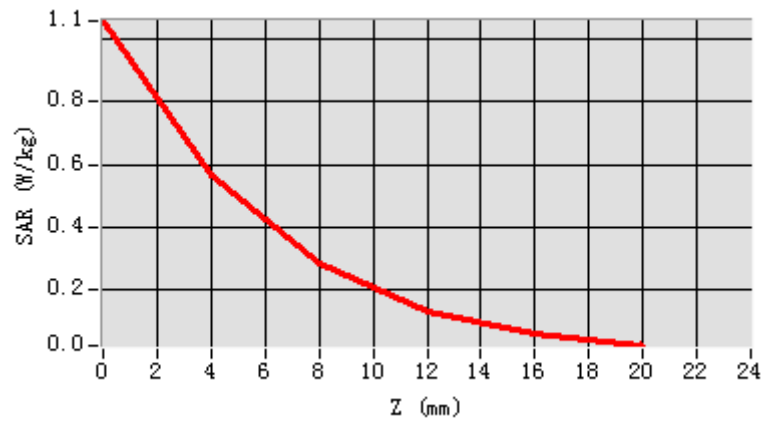


Maximum location: X=-2.00, Y=-9.00

SAR Peak: 1.06 W/kg

SAR 10g (W/Kg)	0.208463
SAR 1g (W/Kg)	0.508058

Z (mm)	0.00	4.00	8.00	12.00	16.00
SAR (W/Kg)	1.0596	0.5663	0.2820	0.1320	0.0584



System Performance Check (Head, 2600MHz)

Type: Phone measurement

Area scan resolution: dx=8mm,dy=8mm

Zoom scan resolution: dx=5mm, dy=5mm, dz=4mm

Date of measurement: 12/20/2019

Measurement duration: 22 minutes15 seconds

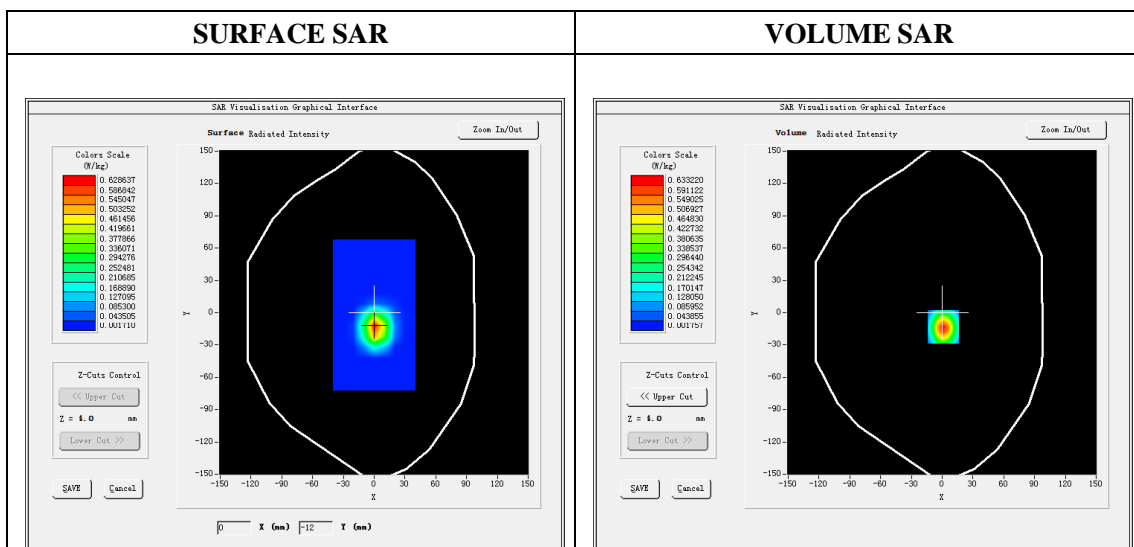
A. Experimental conditions.

Phantom File	dx=8mm dy=8mm
Phantom	7x7x8,dx=5mm dy=5mm dz=4mm
Device Position	Dipole
Band	2600MHz
Channels	
Signal	CW

B. SAR Measurement Results

Band SAR

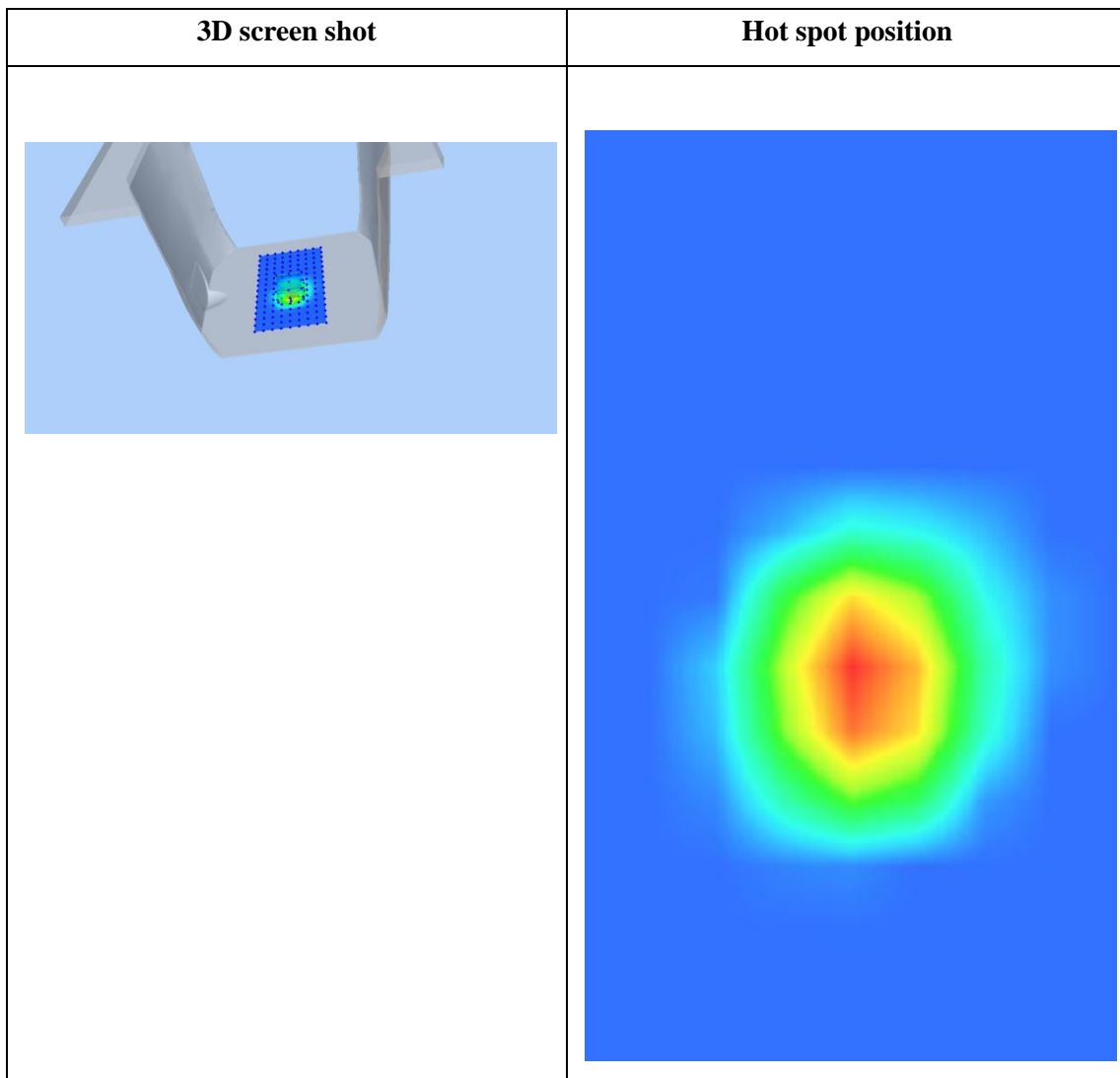
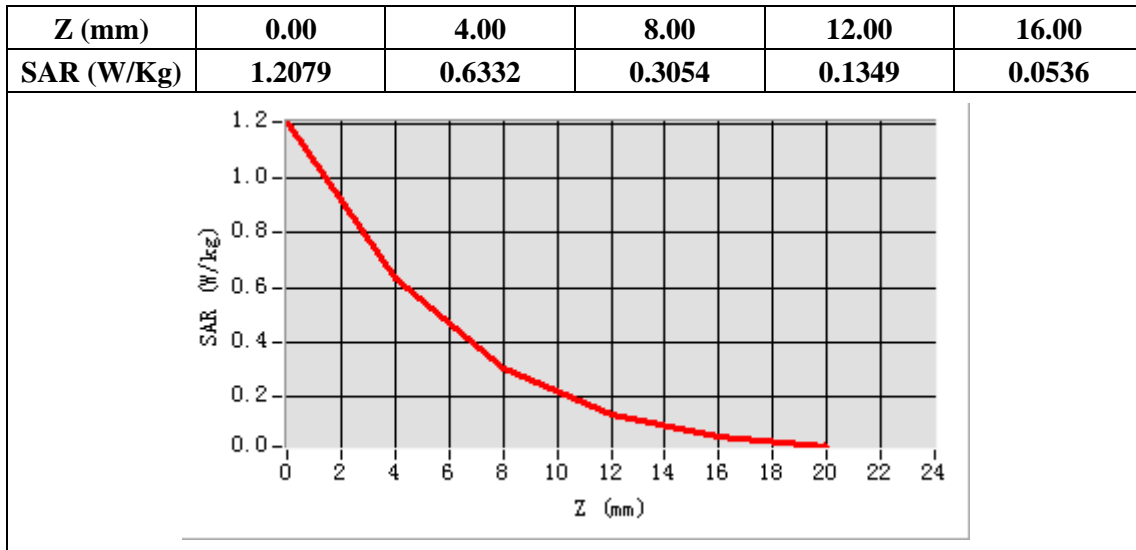
E-Field Probe	SATIMO SN_27/15_EPG0261
Frequency (MHz)	2600
Relative permittivity (real part)	39.14
Relative permittivity	13.71
Conductivity (S/m)	1.98
Power drift (%)	-2.45
Ambient Temperature:	22.2°C
Liquid Temperature:	22.5°C
Crest factor:	1:1
ConvF:	2.35



Maximum location: X=1.00, Y=-13.00

SAR Peak: 1.21 W/kg

SAR 10g (W/Kg)	0.229208
SAR 1g (W/Kg)	0.573003



System Performance Check (Body, 2600MHz)

Type: Phone measurement

Area scan resolution: dx=8mm,dy=8mm

Zoom scan resolution: dx=5mm, dy=5mm, dz=4mm

Date of measurement: 12/20/2019

Measurement duration: 22 minutes 18 seconds

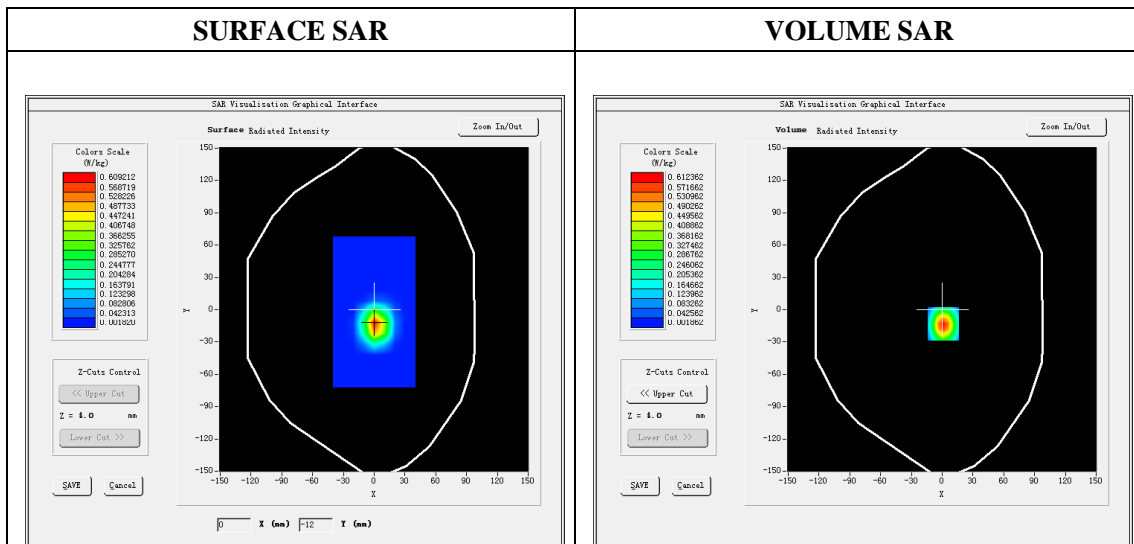
A. Experimental conditions.

Phantom File	dx=8mm dy=8mm
Phantom	7x7x8,dx=5mm dy=5mm dz=4mm
Device Position	Dipole
Band	2600MHz
Channels	
Signal	CW

B. SAR Measurement Results

Band SAR

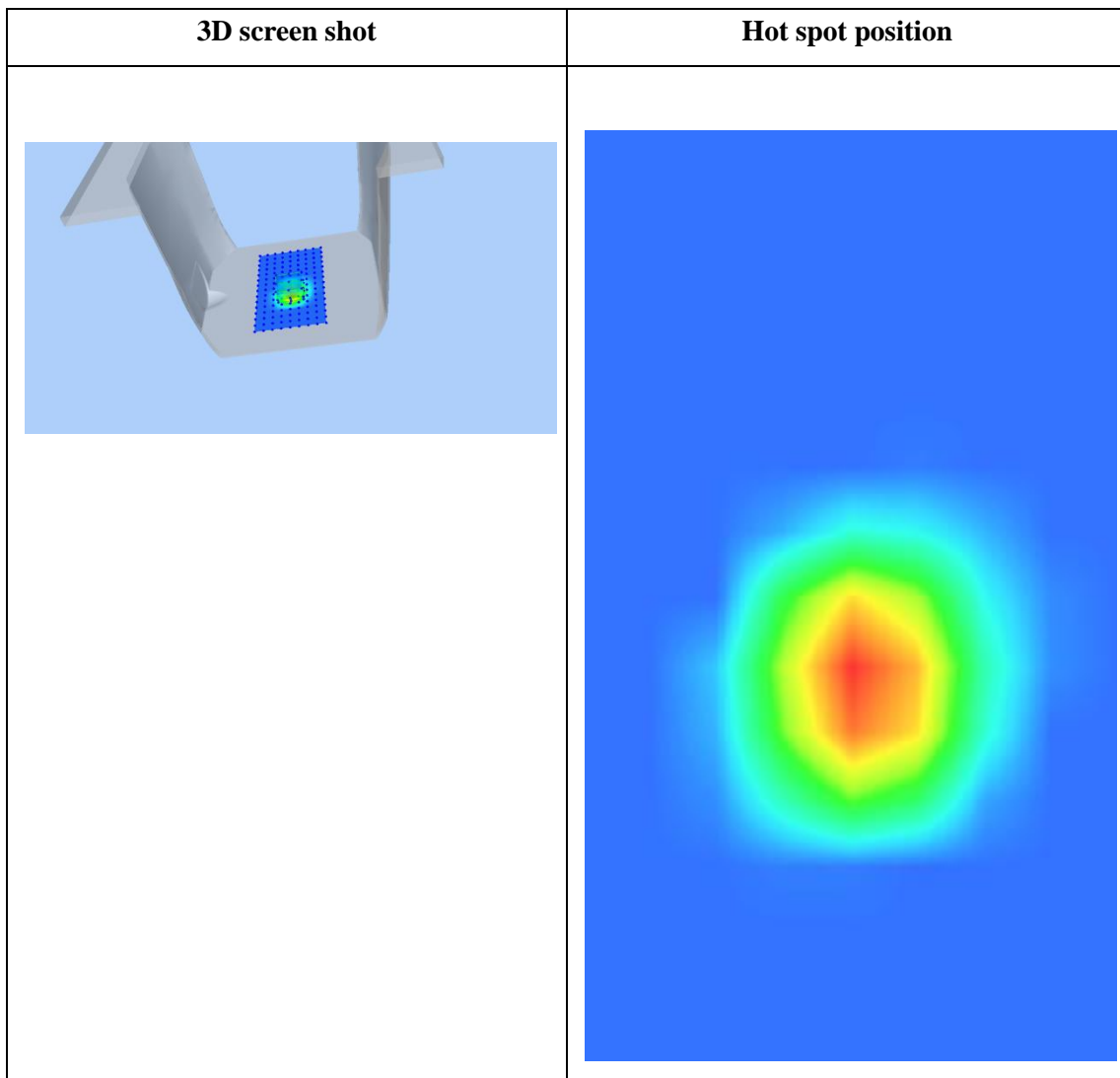
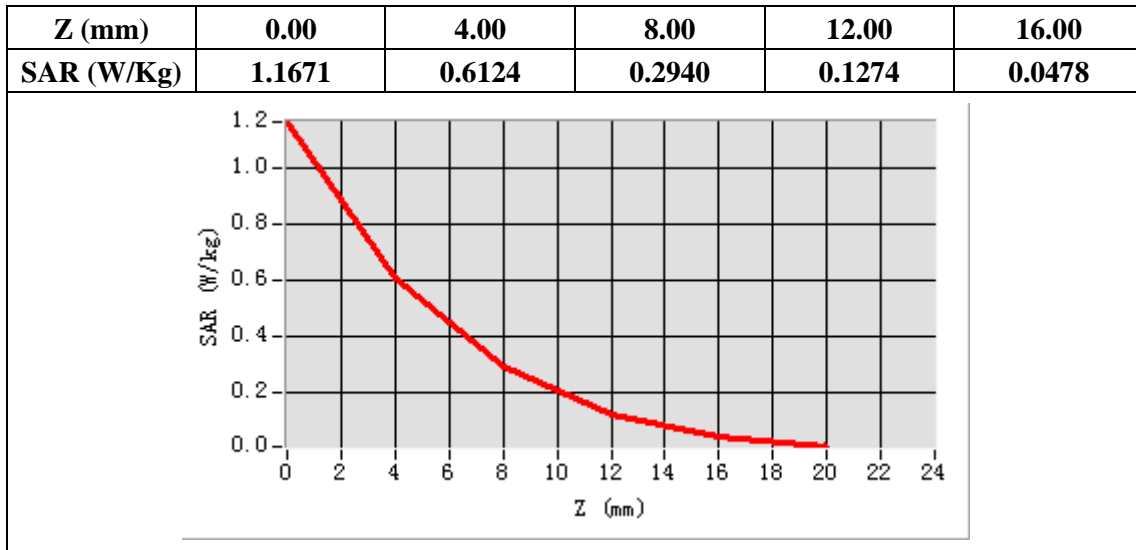
E-Field Probe	SATIMO SN_27/15_EPG0261
Frequency (MHz)	2600
Relative permittivity (real part)	52.60
Relative permittivity	15.16
Conductivity (S/m)	2.19
Power drift (%)	-2.92
Ambient Temperature:	22.2°C
Liquid Temperature:	22.5°C
Crest factor:	1:1
ConvF:	2.43



Maximum location: X=1.00, Y=-13.00

SAR Peak: 1.17 W/kg

SAR 10g (W/Kg)	0.218561
SAR 1g (W/Kg)	0.548354



System Performance Check (Head, 5200MHz)

Type: Phone measurement

Area scan resolution: dx=8mm,dy=8mm

Zoom scan resolution: dx=4mm, dy=4mm, dz=2mm

Date of measurement: 12/21/2019

Measurement duration: 22 minutes 14 seconds

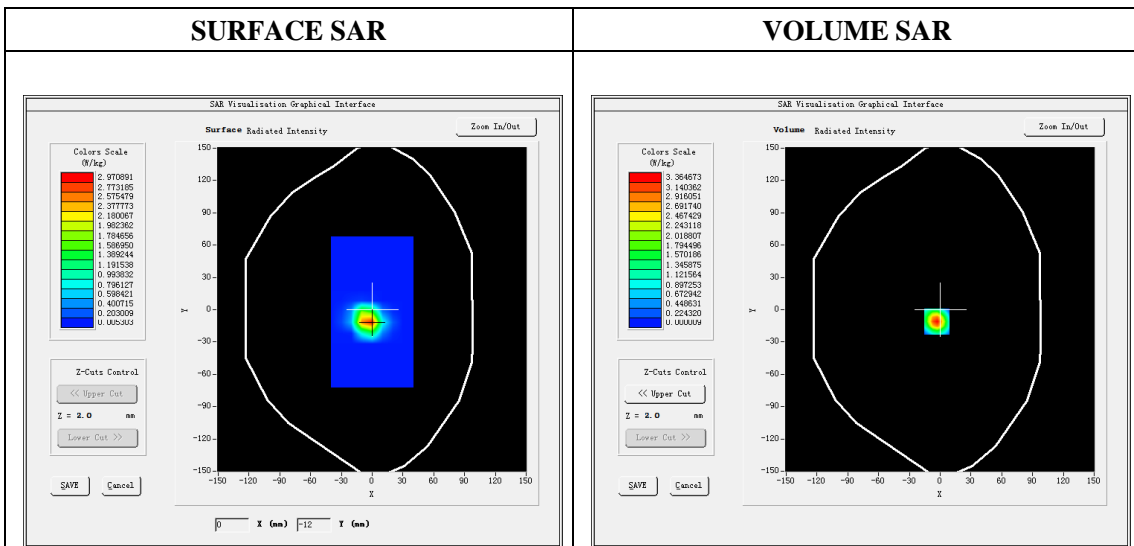
A. Experimental conditions.

Phantom File	dx=8mm dy=8mm
Phantom	7x7x8,dx=4mm dy=4mm dz=2mm
Device Position	Dipole
Band	5200MHz
Channels	
Signal	CW

B. SAR Measurement Results

Band SAR

E-Field Probe	SATIMO SN_27/15_EPG0261
Frequency (MHz)	5200
Relative permittivity (real part)	36.31
Relative permittivity	16.13
Conductivity (S/m)	4.66
Power drift (%)	-2.52
Ambient Temperature:	22.2°C
Liquid Temperature:	22.5°C
Crest factor:	1:1
ConvF:	2.15

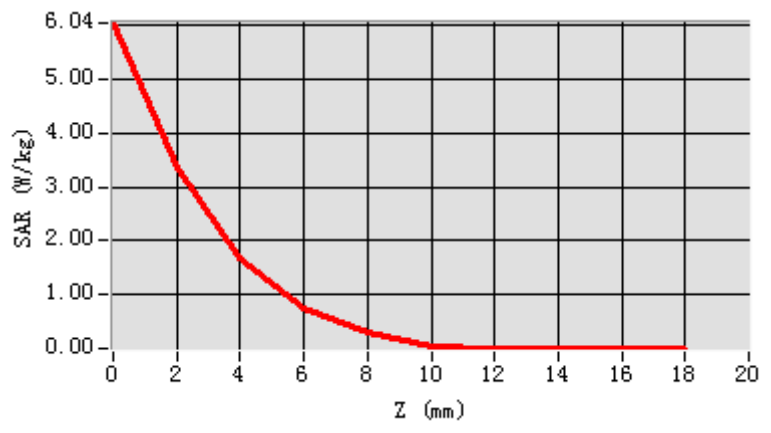


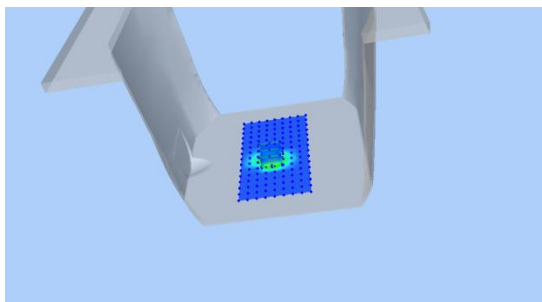
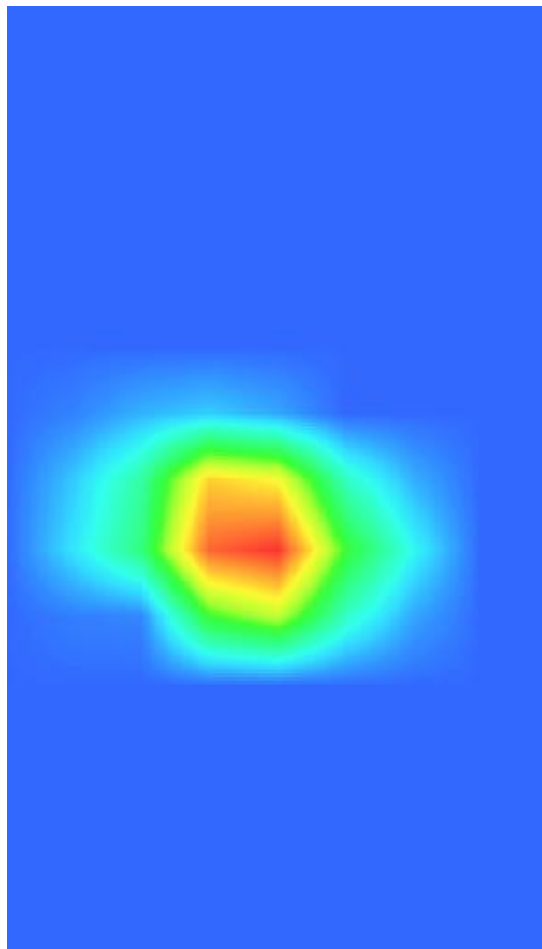
Maximum location: X=-3.00, Y=-11.00

SAR Peak: 6.40W/kg

SAR 10g (W/Kg)	0.436363
SAR 1g (W/Kg)	1.732535

Z (mm)	0.00	2.00	4.00	6.00	8.00	10.00	12.00	14.00	16.00
SAR (W/Kg)	6.0402	3.3647	1.6651	0.7375	0.2983	0.0324	0.0006	0.0035	0.0036



3D screen shot	Hot spot position
	

System Performance Check (Body, 5200MHz)

Type: Phone measurement

Area scan resolution: dx=8mm,dy=8mm

Zoom scan resolution: dx=4mm, dy=4mm, dz=2mm

Date of measurement: 12/21/2019

Measurement duration: 22 minutes 10 seconds

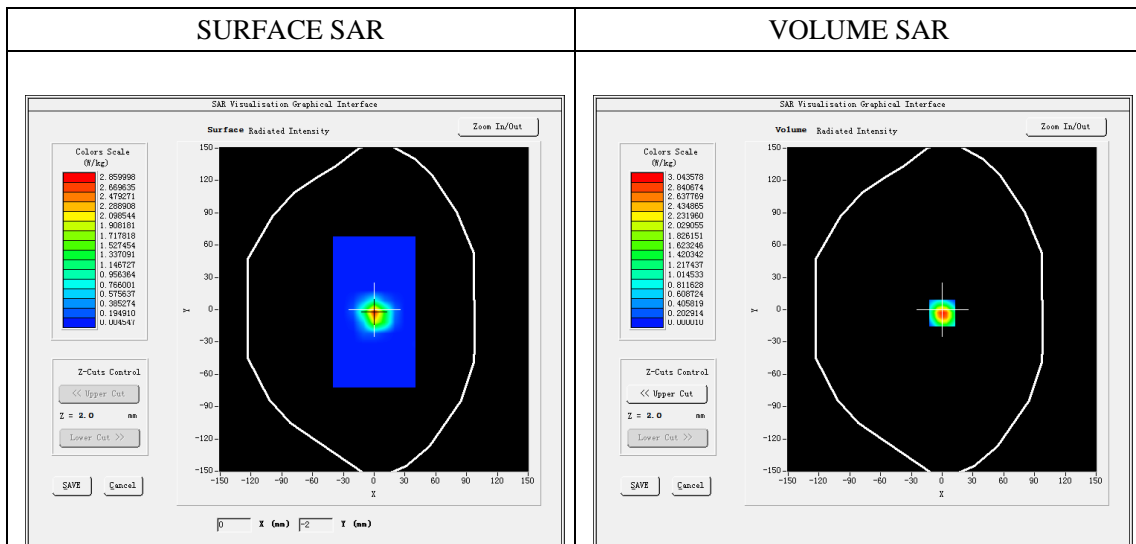
A. Experimental conditions.

Phantom File	dx=8mm dy=8mm
Phantom	7x7x8,dx=4mm dy=4mm dz=2mm
Device Position	Dipole
Band	5200MHz
Channels	
Signal	CW

B. SAR Measurement Results

Band SAR

E-Field Probe	SATIMO SN_27/15_EPG0261
Frequency (MHz)	5200
Relative permittivity (real part)	49.43
Relative permittivity	18.42
Conductivity (S/m)	5.32
Power drift (%)	-1.85
Ambient Temperature:	22.2°C
Liquid Temperature:	22.5°C
Crest factor:	1:1
ConvF:	2.21

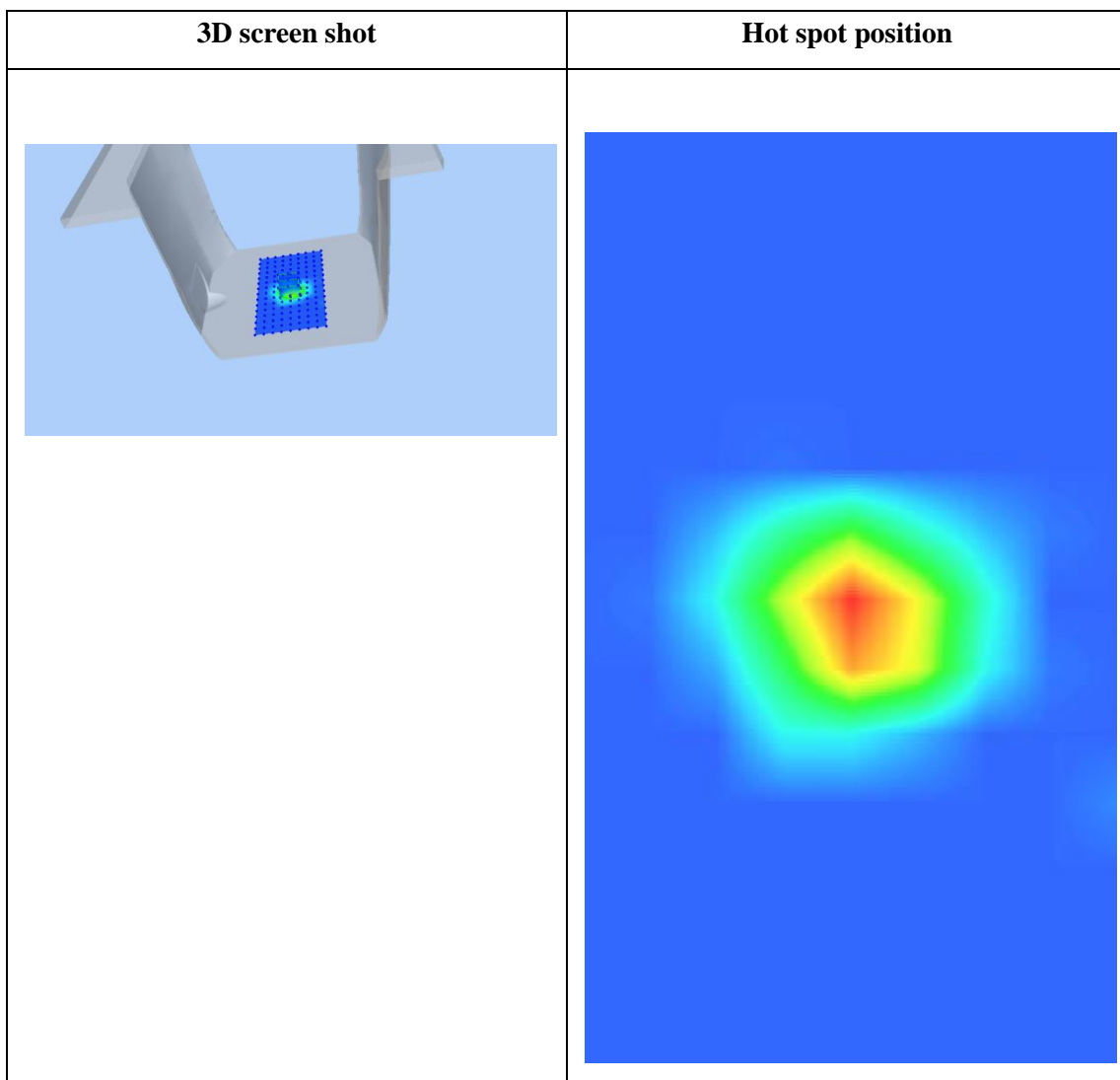
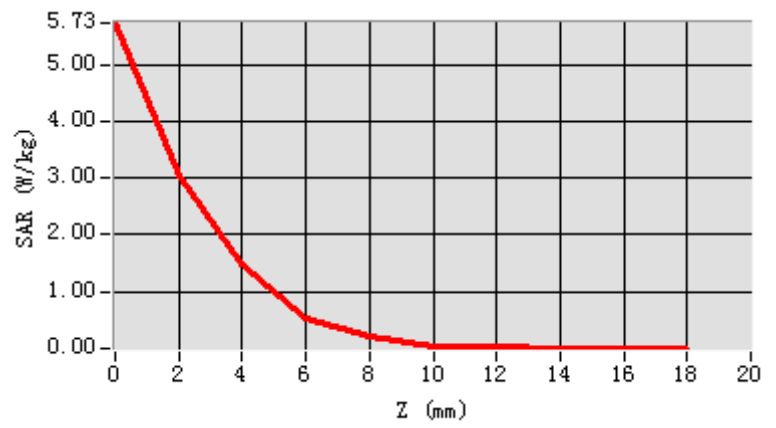


Maximum location: X=0.00, Y=-3.00

SAR Peak: 5.95 W/kg

SAR 10g (W/Kg)	0.391836
SAR 1g (W/Kg)	1.554786

Z (mm)	0.00	2.00	4.00	6.00	8.00	10.00	12.00	14.00	16.00
SAR (W/Kg)	5.7269	3.0436	1.4694	0.5371	0.2066	0.0419	0.0224	0.0018	0.0033



System Performance Check (Head, 5800MHz)

Type: Phone measurement

Area scan resolution: dx=8mm,dy=8mm

Zoom scan resolution: dx=4mm, dy=4mm, dz=2mm

Date of measurement: 12/24/2019

Measurement duration: 22 minutes 05 seconds

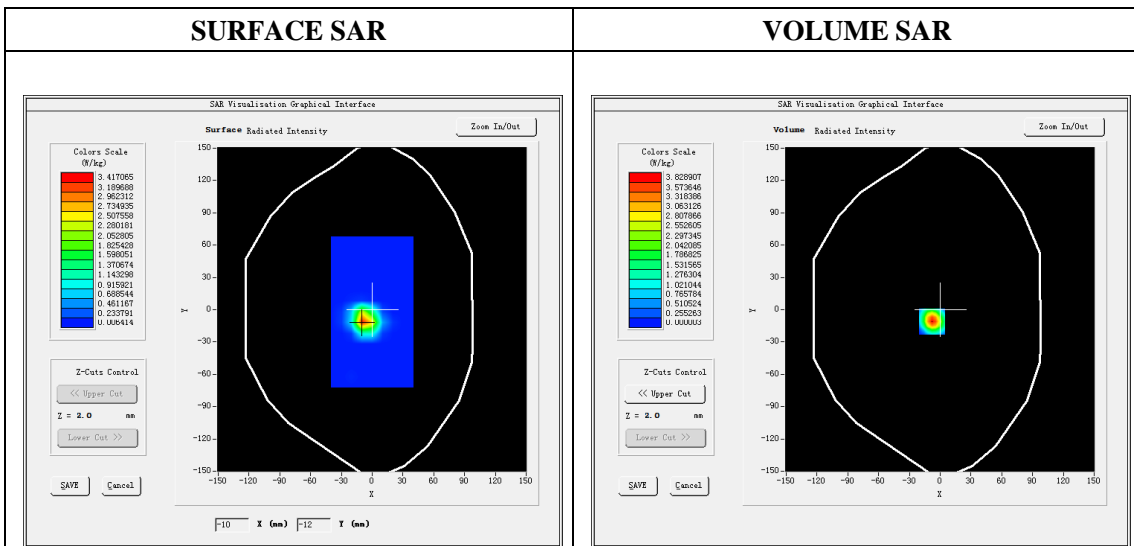
A. Experimental conditions.

Phantom File	dx=8mm dy=8mm
Phantom	7x7x8,dx=4mm dy=4mm dz=2mm
Device Position	Dipole
Band	5800MHz
Channels	
Signal	CW

B. SAR Measurement Results

Band SAR

E-Field Probe	SATIMO SN_27/15_EPG0261
Frequency (MHz)	5800
Relative permittivity (real part)	35.60
Relative permittivity	16.36
Conductivity (S/m)	5.27
Power drift (%)	-2.87
Ambient Temperature:	22.2°C
Liquid Temperature:	22.5°C
Crest factor:	1:1
ConvF:	2.19

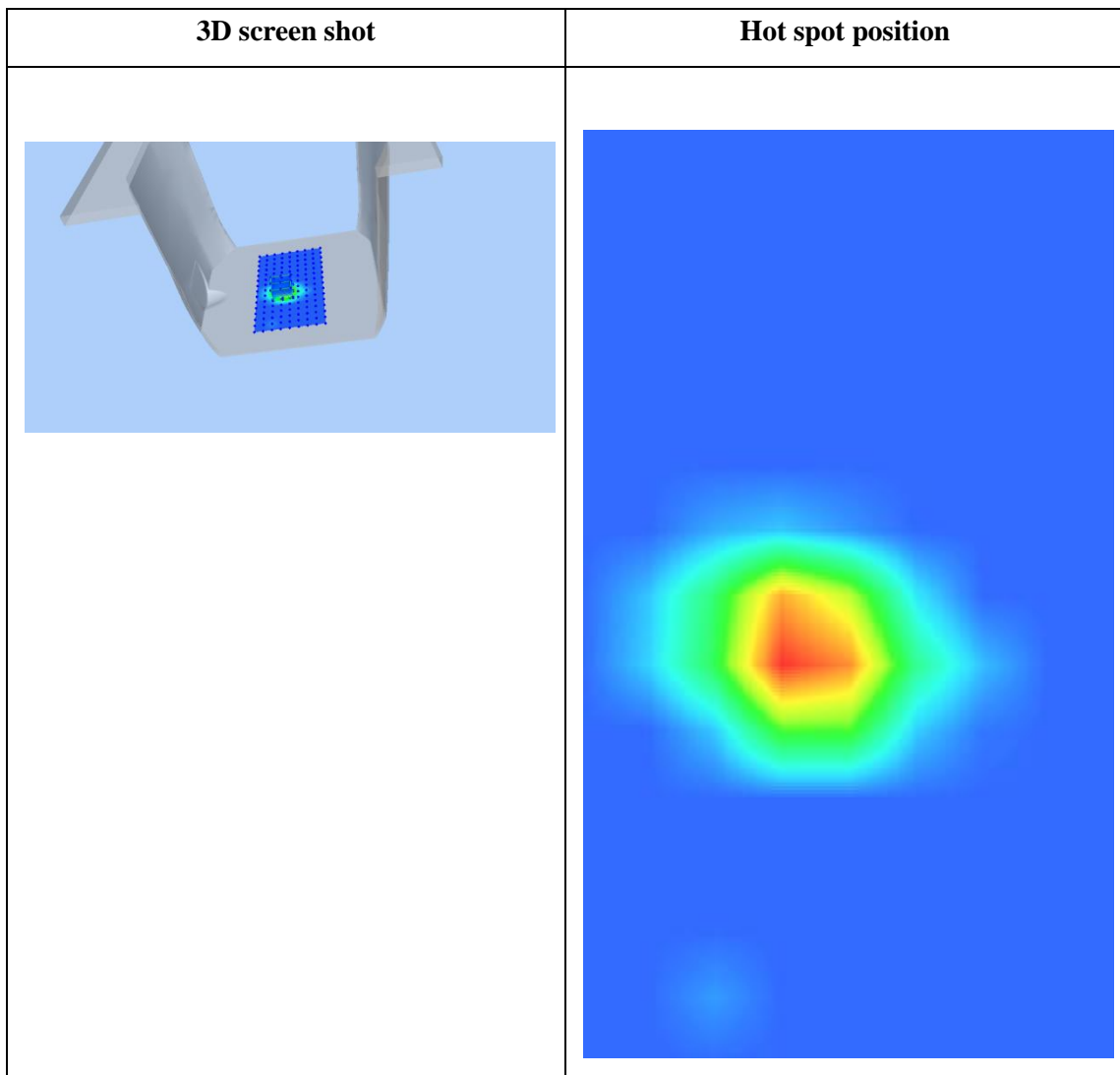
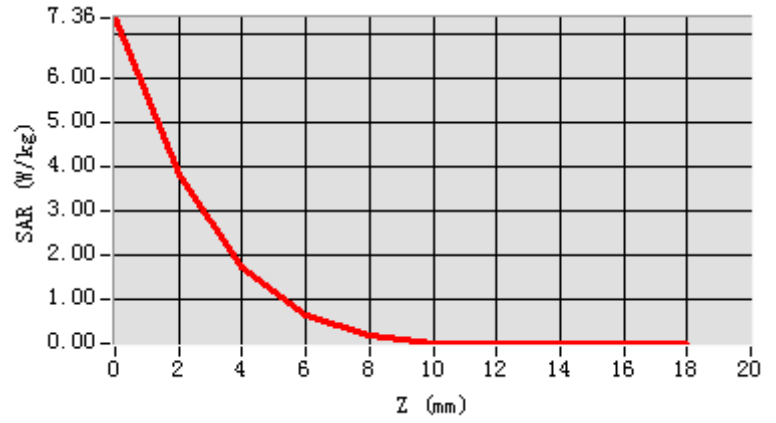


Maximum location: X=-8.00, Y=-11.00

SAR Peak: 7.87 W/kg

SAR 10g (W/Kg)	0.445950
SAR 1g (W/Kg)	1.919346

Z (mm)	0.00	2.00	4.00	6.00	8.00	10.00	12.00	14.00	16.00
SAR (W/Kg)	7.3624	3.8289	1.7097	0.6436	0.2018	0.0028	0.0006	0.0036	0.0065



System Performance Check (Body, 5800MHz)

Type: Phone measurement

Area scan resolution: dx=8mm,dy=8mm

Zoom scan resolution: dx=4mm, dy=4mm, dz=2mm

Date of measurement: 12/24/2019

Measurement duration: 22 minutes 17 seconds

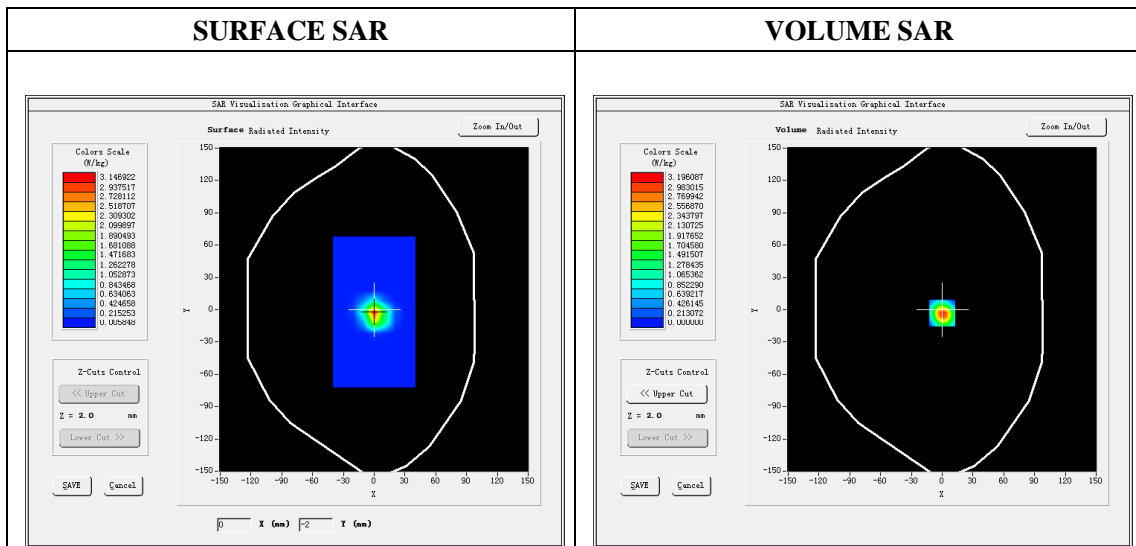
A. Experimental conditions.

Phantom File	dx=8mm dy=8mm
Phantom	7x7x8,dx=4mm dy=4mm dz=2mm
Device Position	Dipole
Band	5800MHz
Channels	
Signal	CW

B. SAR Measurement Results

Band SAR

E-Field Probe	SATIMO SN_27/15_EPG0261
Frequency (MHz)	5800
Relative permittivity (real part)	48.58
Relative permittivity	18.65
Conductivity (S/m)	6.01
Power drift (%)	-2.28
Ambient Temperature:	22.2°C
Liquid Temperature:	22.5°C
Crest factor:	1:1
ConvF:	2.26

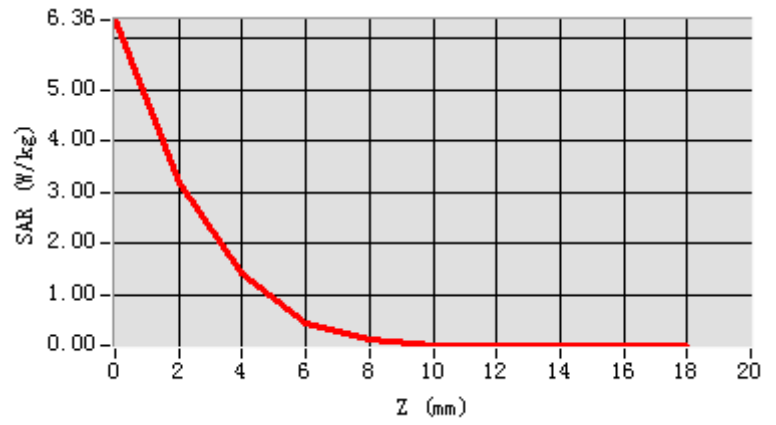


Maximum location: X=0.00, Y=-3.00

SAR Peak: 6.66 W/kg

SAR 10g (W/Kg)	0.357449
SAR 1g (W/Kg)	1.589486

Z (mm)	0.00	2.00	4.00	6.00	8.00	10.00	12.00	14.00	16.00
SAR (W/Kg)	6.3600	3.1961	1.3971	0.4235	0.1223	0.0172	0.0002	0.0007	0.0059



3D screen shot	Hot spot position
