

Appendix A: SAR System performance Check Plots

Measurement	Liquid	Frequency	Test Date
System Check	Head	835	2018-07-23
System Check	Head	1900	2018-07-24
System Check	Head	2450	2018-07-25
System Check	Head	2600	2018-07-26
System Check	Head	5200	2018-07-27
System Check	Head	5400	2018-07-27
System Check	Head	5600	2018-07-30
System Check	Head	5800	2018-07-30
System Check	Body	835	2018-07-23
System Check	Body	1900	2018-07-24
System Check	Body	2450	2018-07-25
System Check	Body	2600	2018-07-26
System Check	Body	5200	2018-07-27
System Check	Body	5400	2018-07-27
System Check	Body	5600	2018-07-30
System Check	Body	5800	2018-07-30

System Performance Check (Head, 835MHz)

Type: Validation measurement

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

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

Date of measurement: 07/23/2018

Measurement duration: 22 minutes 26seconds

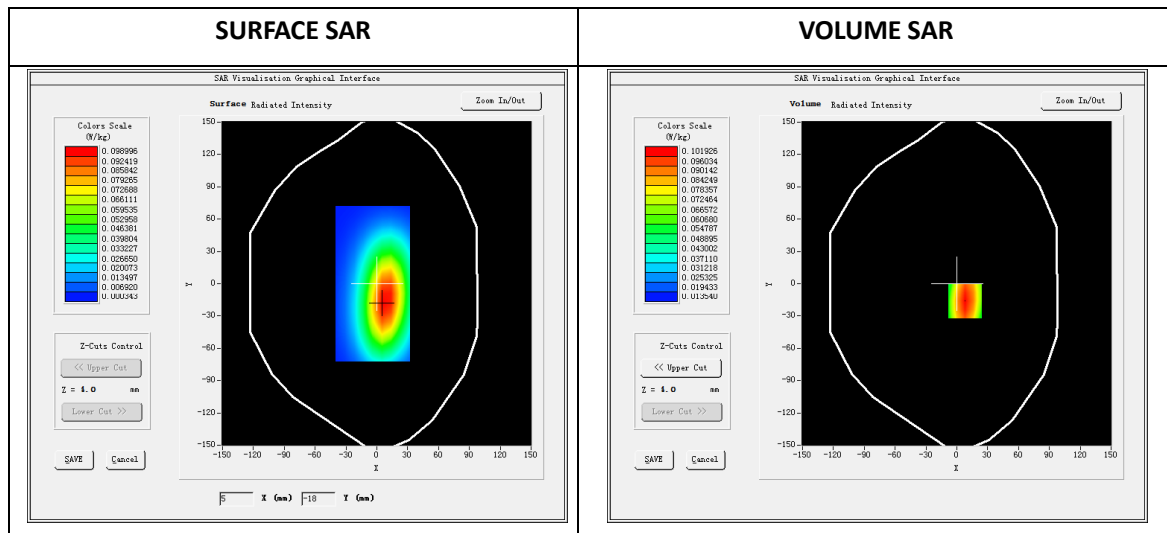
A. Experimental conditions.

Phantom File	dx=8mm dy=8mm
Phantom	5x5x7,dx=8mm dy=8mm dz=5mm
Device Position	Dipole
Band	850MHz
Channels	
Signal	CW

B. SAR Measurement Results

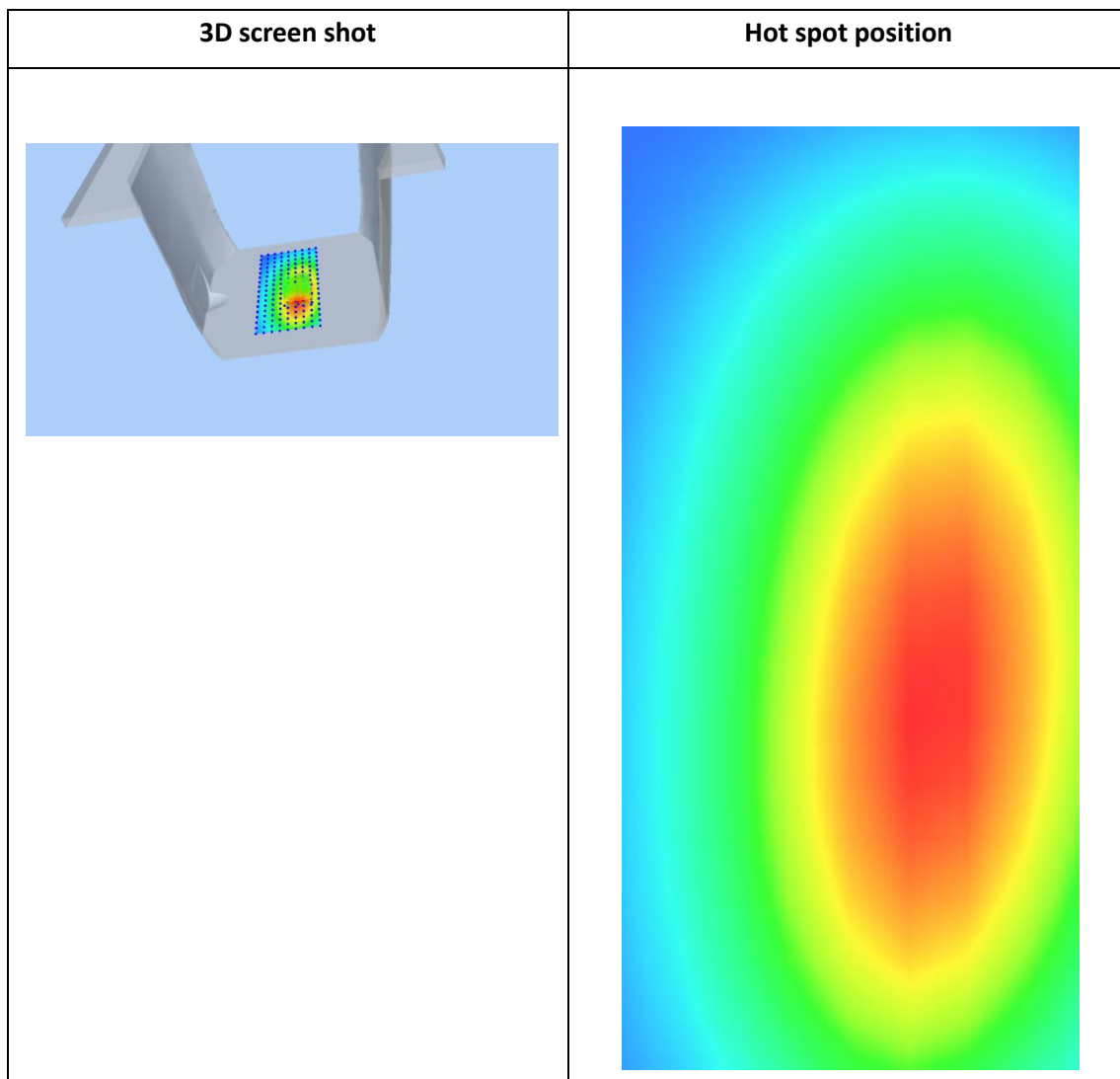
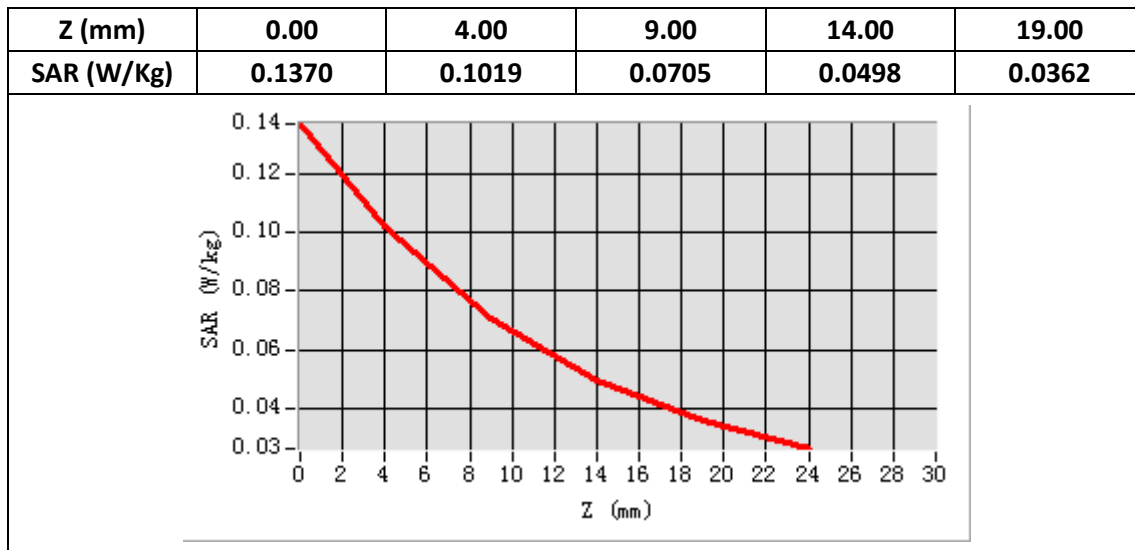
Band SAR

E-Field Probe	SATIMO SN_43/15_EP276
Frequency (MHz)	835
Relative permittivity (real part)	41.61
Relative permittivity	19.35
Conductivity (S/m)	0.89
Power drift (%)	-0.26
Ambient Temperature:	22.2°C
Liquid Temperature:	22.5°C
ConvF:	4.99
Duty factor:	1:1



Maximum location: X=8.00, Y=-16.00

SAR 10g (W/Kg)	0.063961
SAR 1g (W/Kg)	0.096800



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: 07/24/2018

Measurement duration: 22 minutes 35seconds

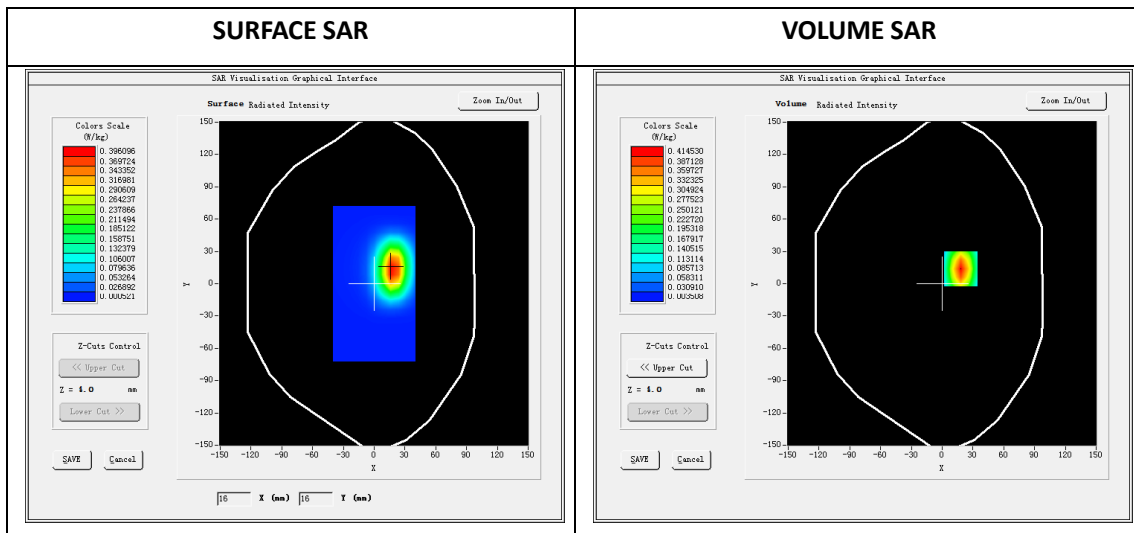
A. Experimental conditions.

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

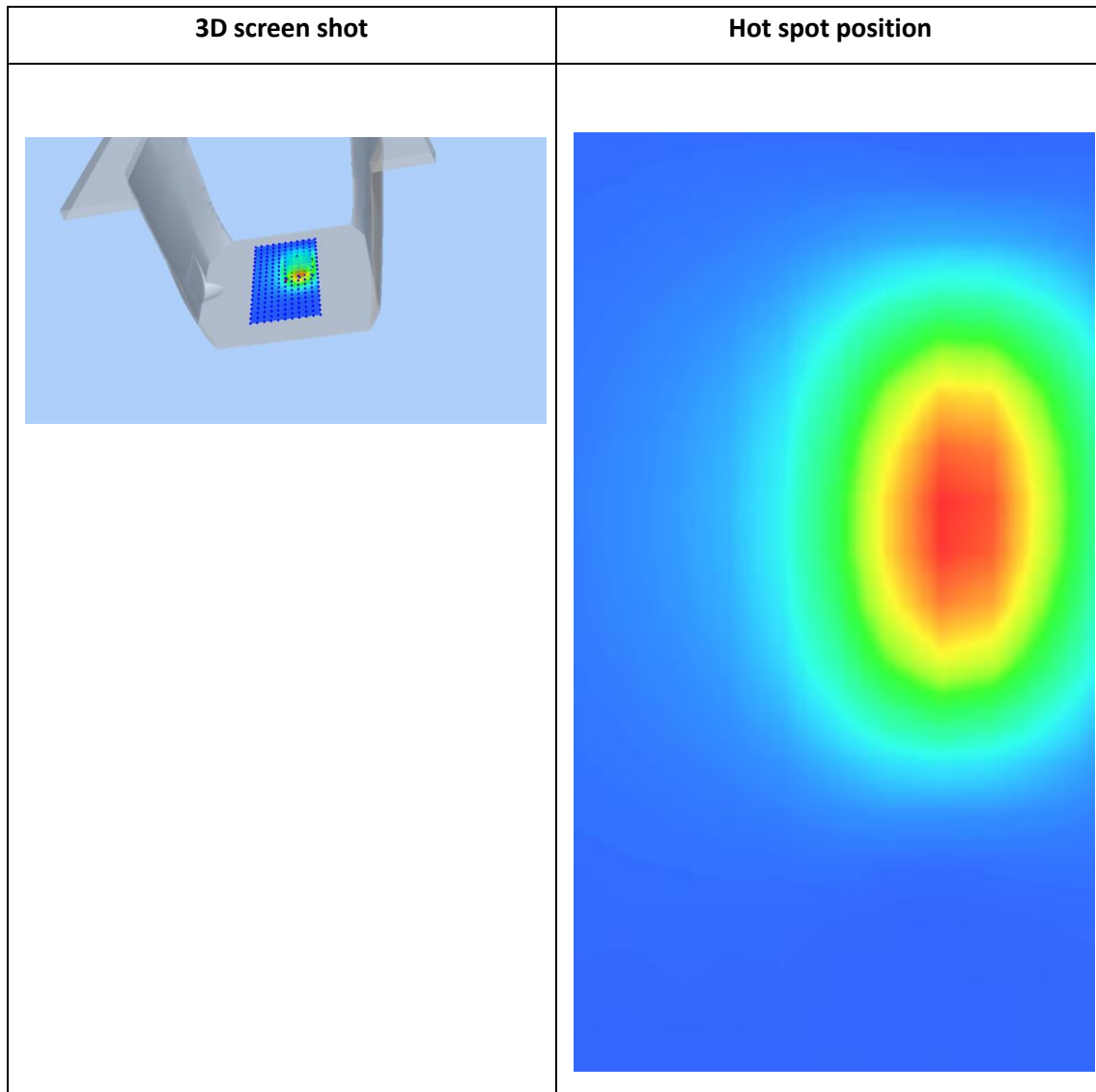
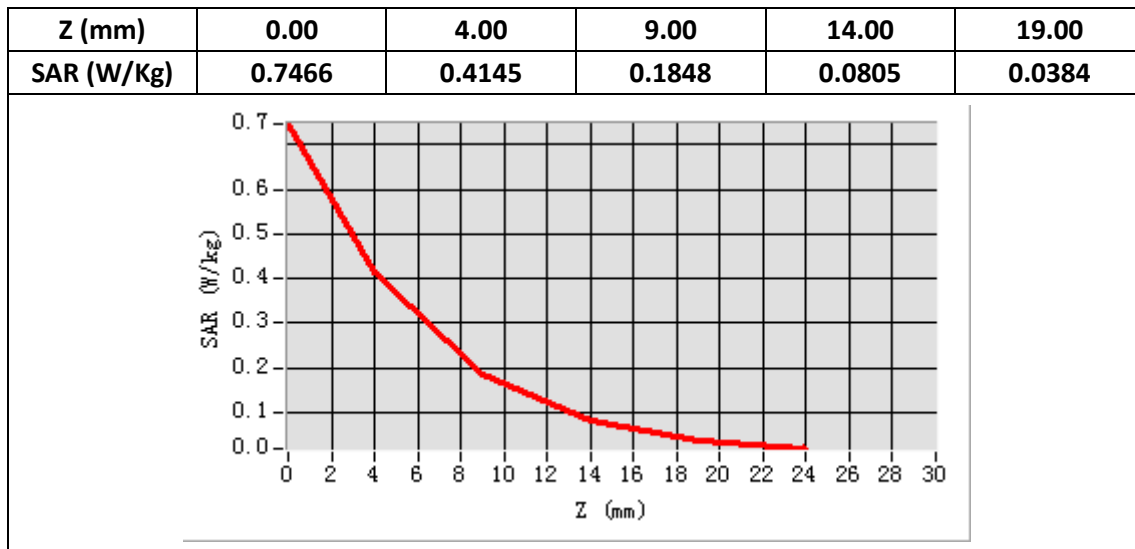
Band SAR

E-Field Probe	SATIMO SN_43/15_EP276
Frequency (MHz)	1900
Relative permittivity (real part)	41.15
Relative permittivity	12.68
Conductivity (S/m)	1.38
Power drift (%)	-0.50
Ambient Temperature:	22.2°C
Liquid Temperature:	22.5°C
ConvF:	4.73
Duty factor:	1:1



Maximum location: X=18.00, Y=14.00

SAR 10g (W/Kg)	0.179514
SAR 1g (W/Kg)	0.386079



System Performance Check (Head, 2450MHz)

Type: Validation measurement

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

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

Date of measurement: 07/25/2018

Measurement duration: 22 minutes 16seconds

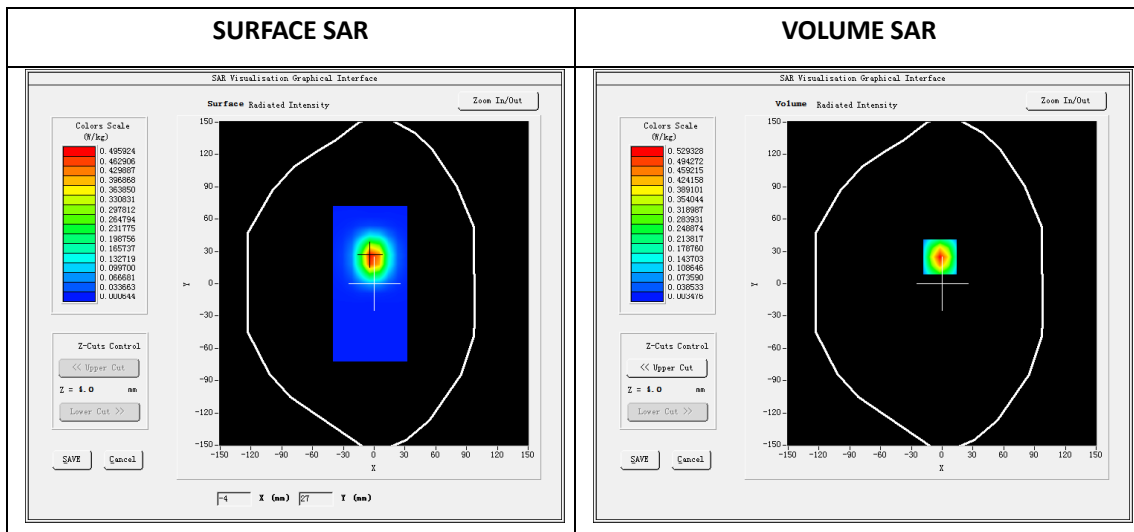
A. Experimental conditions.

Phantom File	dx=8mm dy=8mm
Phantom	5x5x7,dx=8mm dy=8mm dz=5mm
Device Position	Dipole
Band	2450MHz
Channels	
Signal	CW

B. SAR Measurement Results

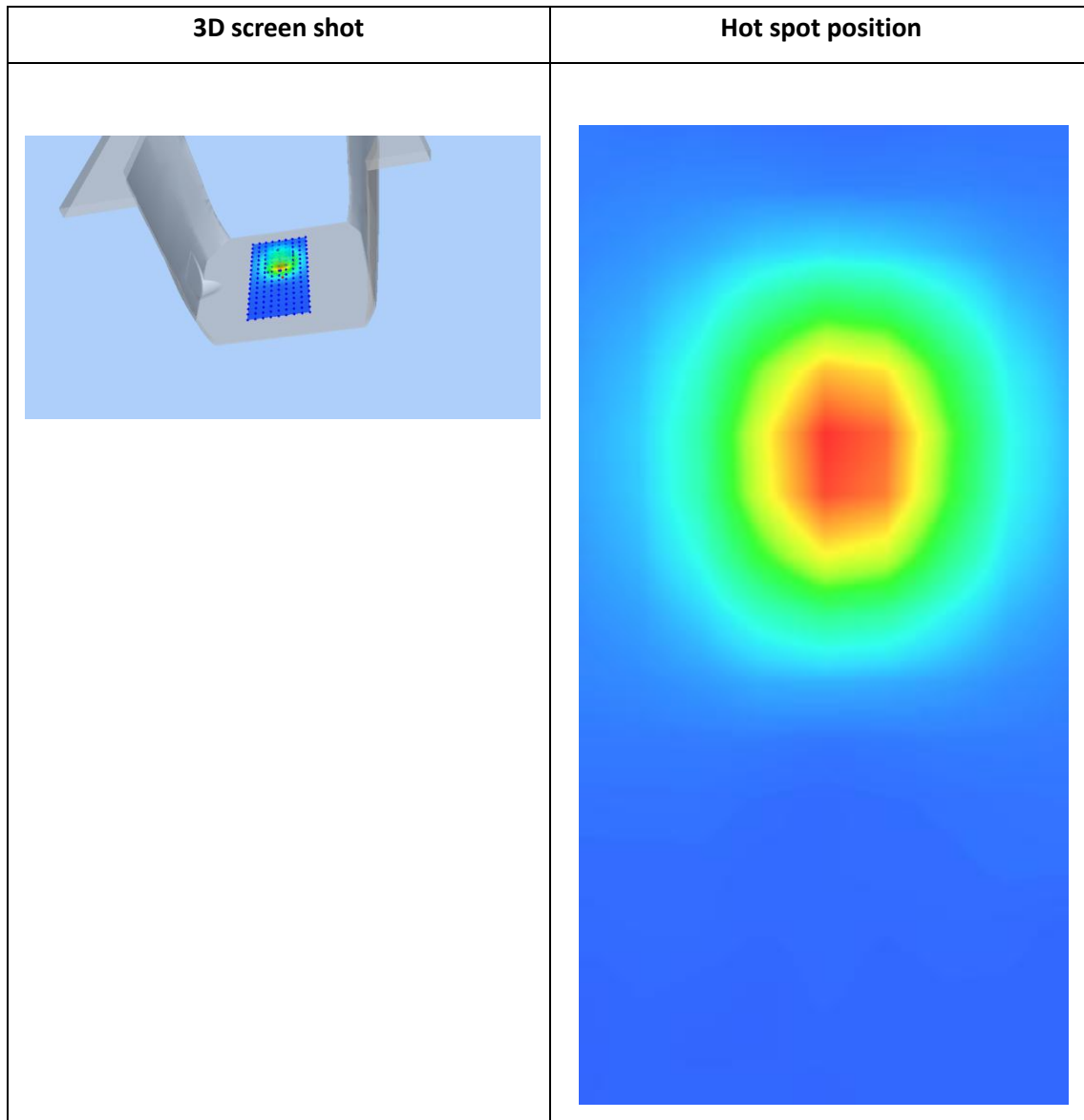
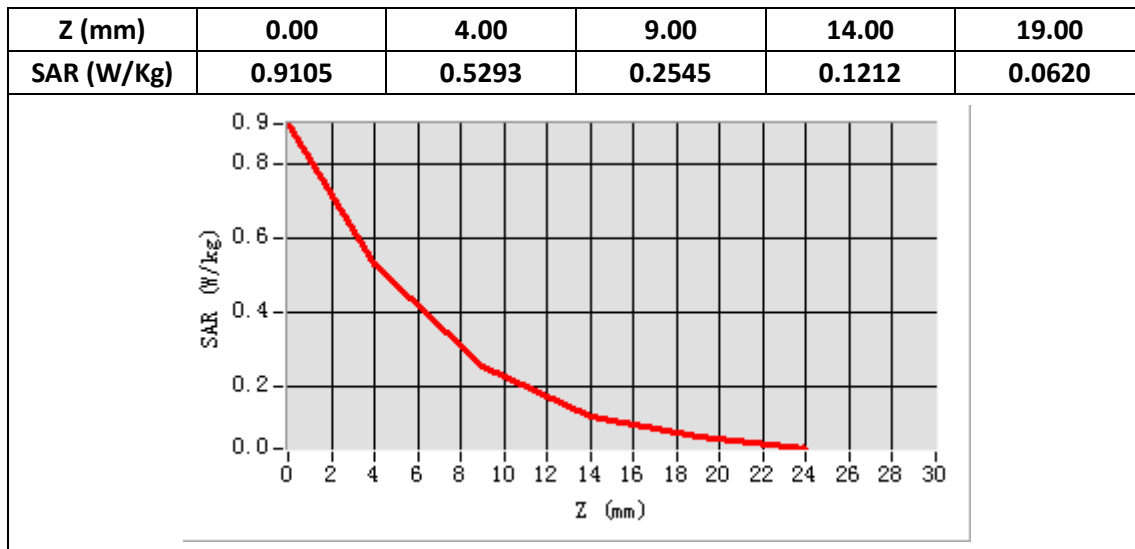
Band SAR

E-Field Probe	SATIMO SN_43/15_EP276
Frequency (MHz)	2450
Relative permittivity (real part)	38.99
Relative permittivity	12.85
Conductivity (S/m)	1.78
Power drift (%)	-0.85
Ambient Temperature:	22.2°C
Liquid Temperature:	22.5°C
ConvF:	4.66
Duty factor:	1:1



Maximum location: X=-2.00, Y=25.00

SAR 10g (W/Kg)	0.226678
SAR 1g (W/Kg)	0.511796



System Performance Check (Head, 2600MHz)

Type: Validation measurement

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

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

Date of measurement: 07/26/2018

Measurement duration: 22 minutes 31seconds

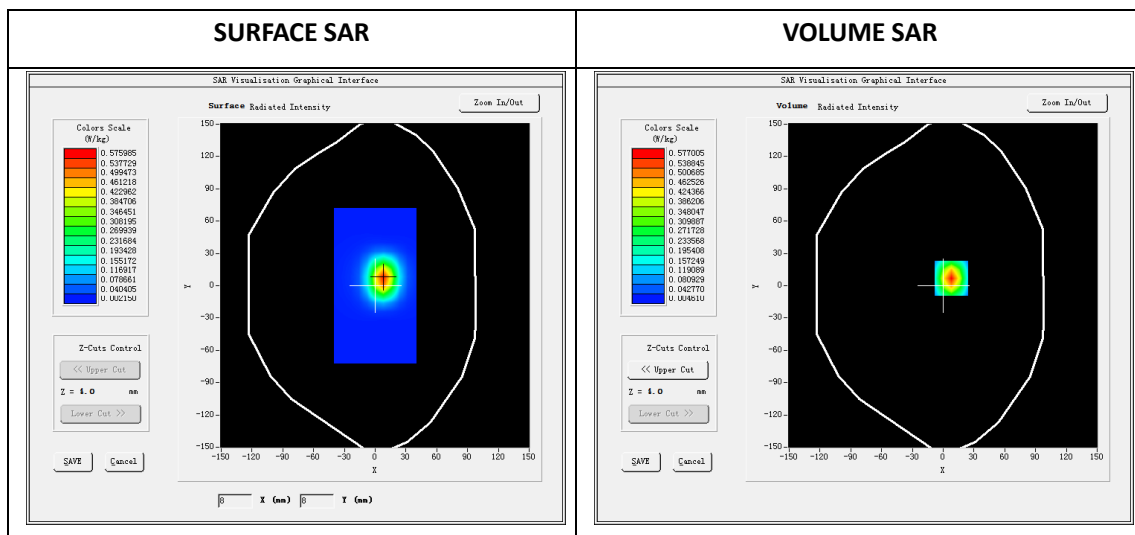
A. Experimental conditions.

Phantom File	dx=8mm dy=8mm
Phantom	5x5x7,dx=8mm dy=8mm dz=5mm
Device Position	Dipole
Band	2600MHz
Channels	
Signal	CW

B. SAR Measurement Results

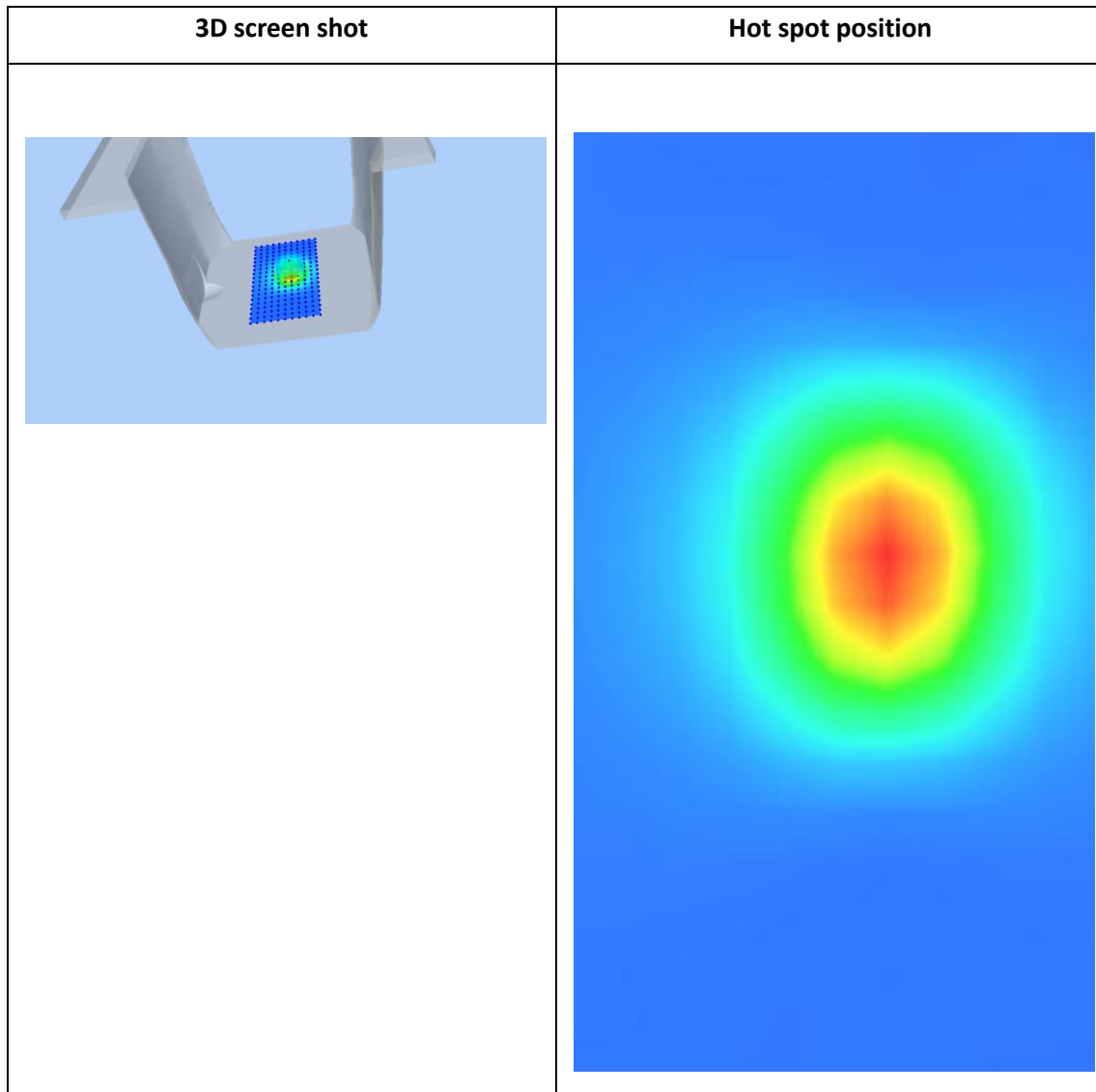
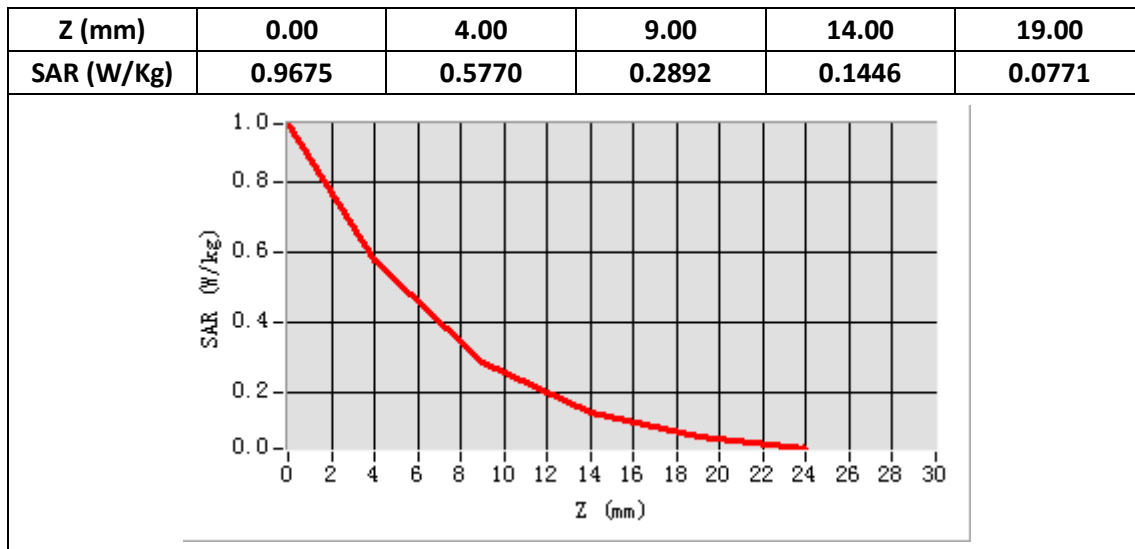
Band SAR

E-Field Probe	SATIMO SN_43/15_EP276
Frequency (MHz)	2600
Relative permittivity (real part)	38.45
Relative permittivity	13.41
Conductivity (S/m)	1.94
Power drift (%)	-0.38
Ambient Temperature:	22.2°C
Liquid Temperature:	22.5°C
ConvF:	4.16
Duty factor:	1:1



Maximum location: X=8.00, Y=7.00

SAR 10g (W/Kg)	0.249154
SAR 1g (W/Kg)	0.554523



System Performance Check (Head, 5200MHz)

Type: Validation measurement

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

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

Date of measurement: 07/27/2018

Measurement duration: 22 minutes 21seconds

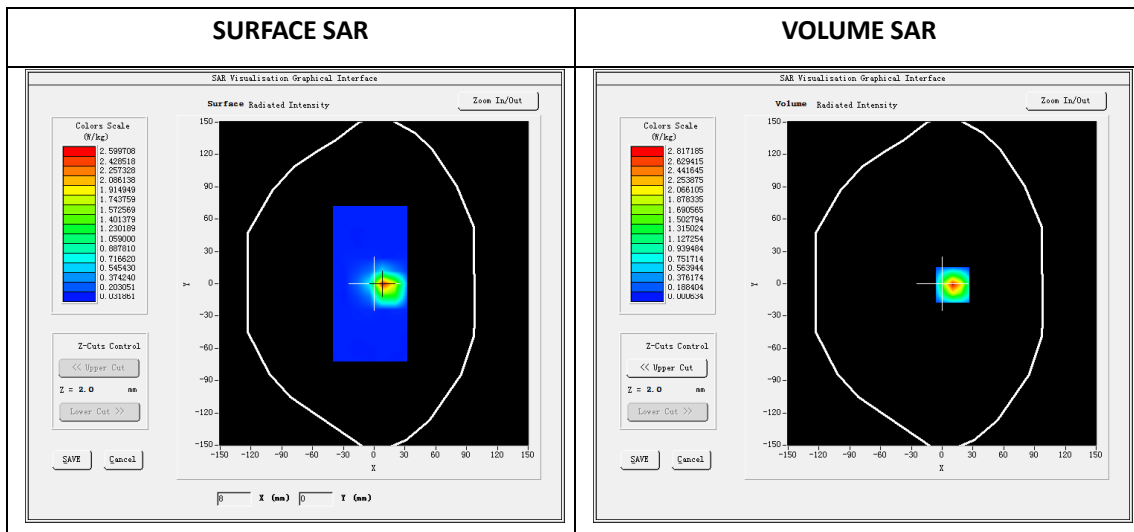
A. Experimental conditions.

Phantom File	dx=8mm dy=8mm
Phantom	5x5x7,dx=8mm dy=8mm dz=5mm
Device Position	Dipole
Band	5200MHz
Channels	
Signal	CW

B. SAR Measurement Results

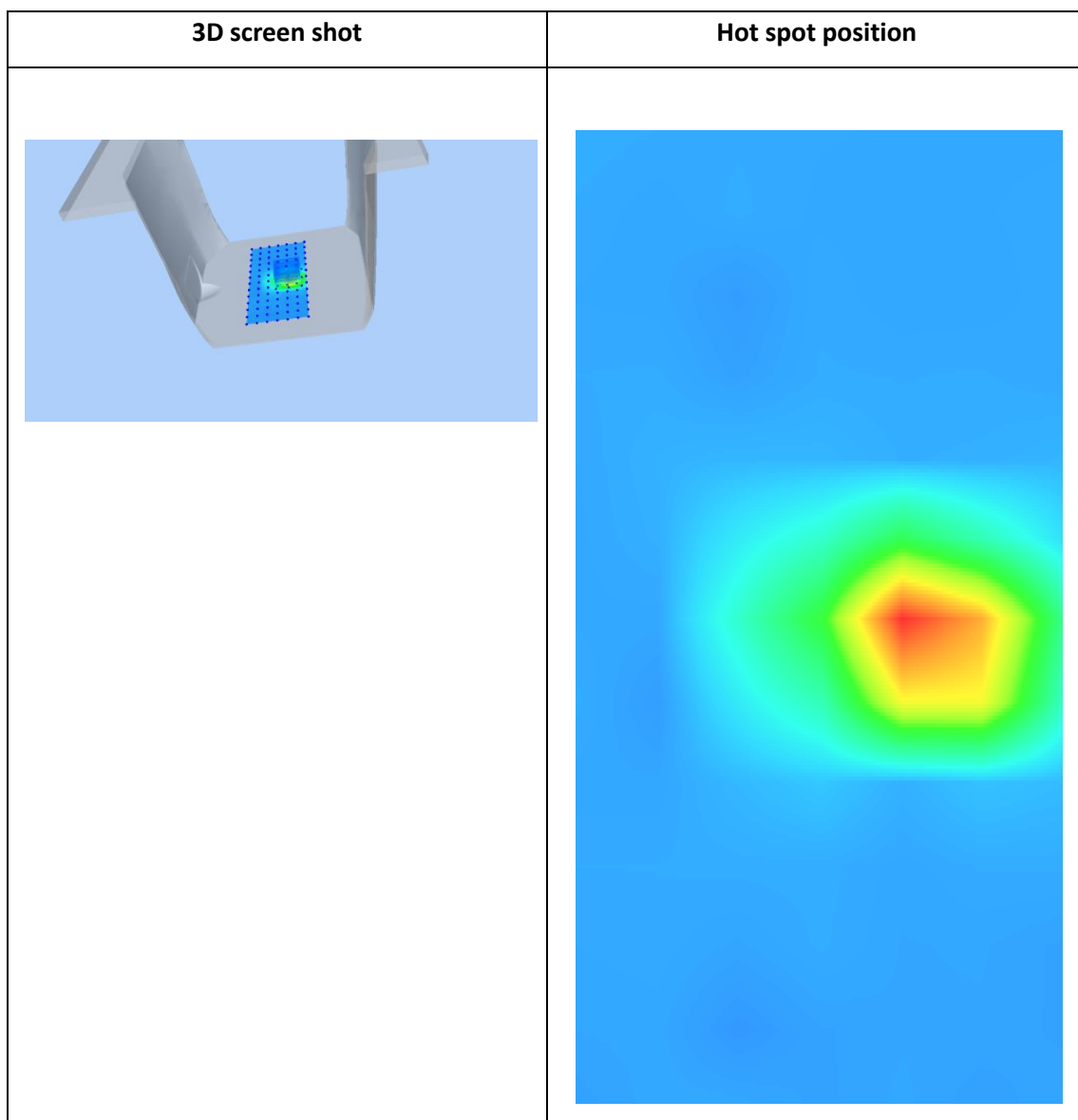
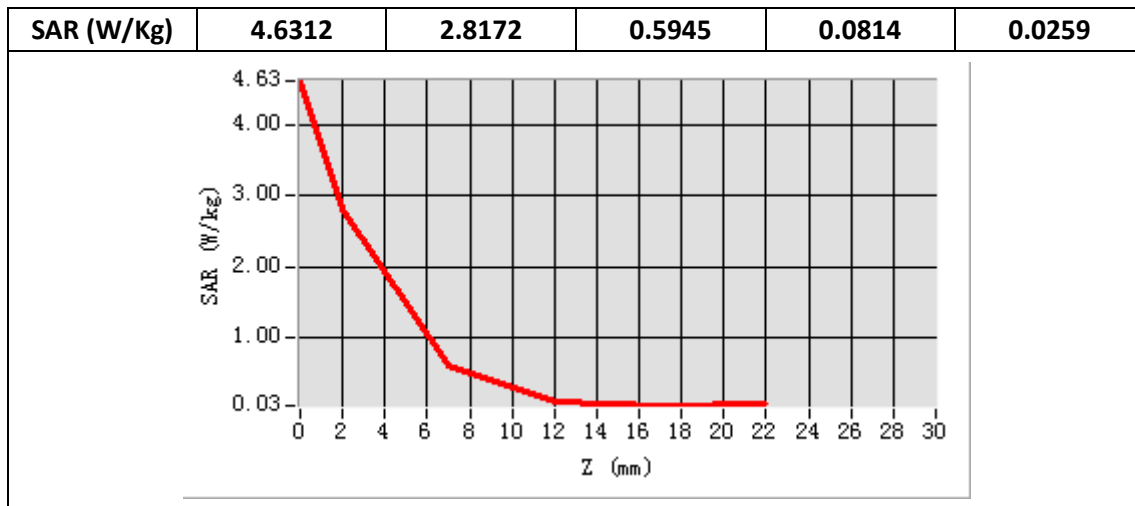
Band SAR

E-Field Probe	SATIMO SN_27/15_EP261
Frequency (MHz)	5200
Relative permittivity (real part)	35.55
Relative permittivity	14.53
Conductivity (S/m)	4.81
Power drift (%)	-1.62
Ambient Temperature:	22.2°C
Liquid Temperature:	22.5°C
ConvF:	2.2
Duty factor:	1:1



Maximum location: X=10.00, Y=-1.00

SAR 10g (W/Kg)		0.570634			
SAR 1g (W/Kg)		1.593592			
Z (mm)	0.00	2.00	7.00	12.00	17.00



System Performance Check (Head, 5400MHz)

Type: Validation measurement

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

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

Date of measurement: 07/27/2018

Measurement duration: 22 minutes 14seconds

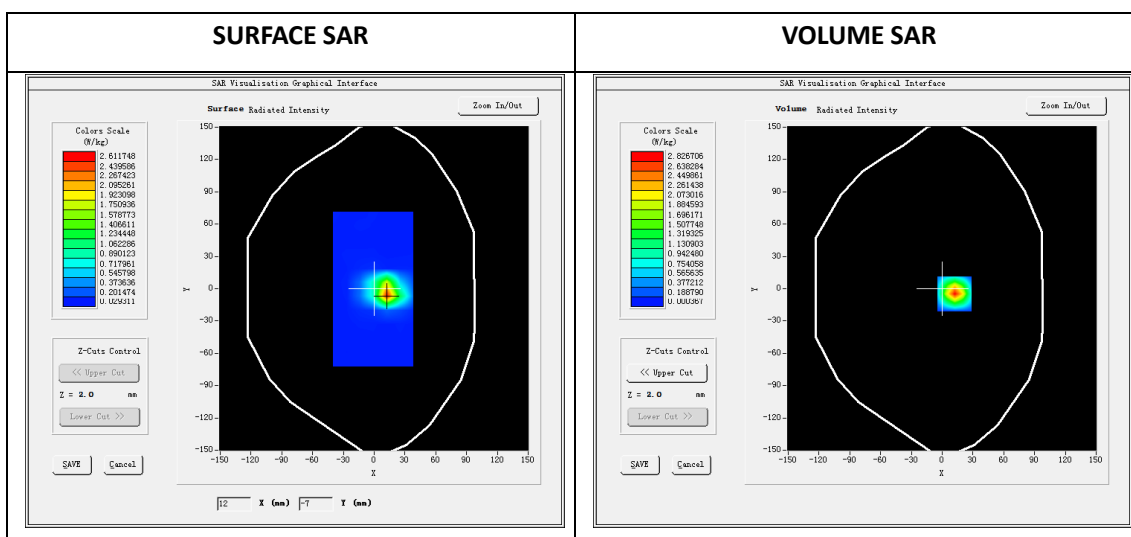
A. Experimental conditions.

Phantom File	dx=8mm dy=8mm
Phantom	5x5x7,dx=8mm dy=8mm dz=5mm
Device Position	Dipole
Band	5400MHz
Channels	
Signal	CW

B. SAR Measurement Results

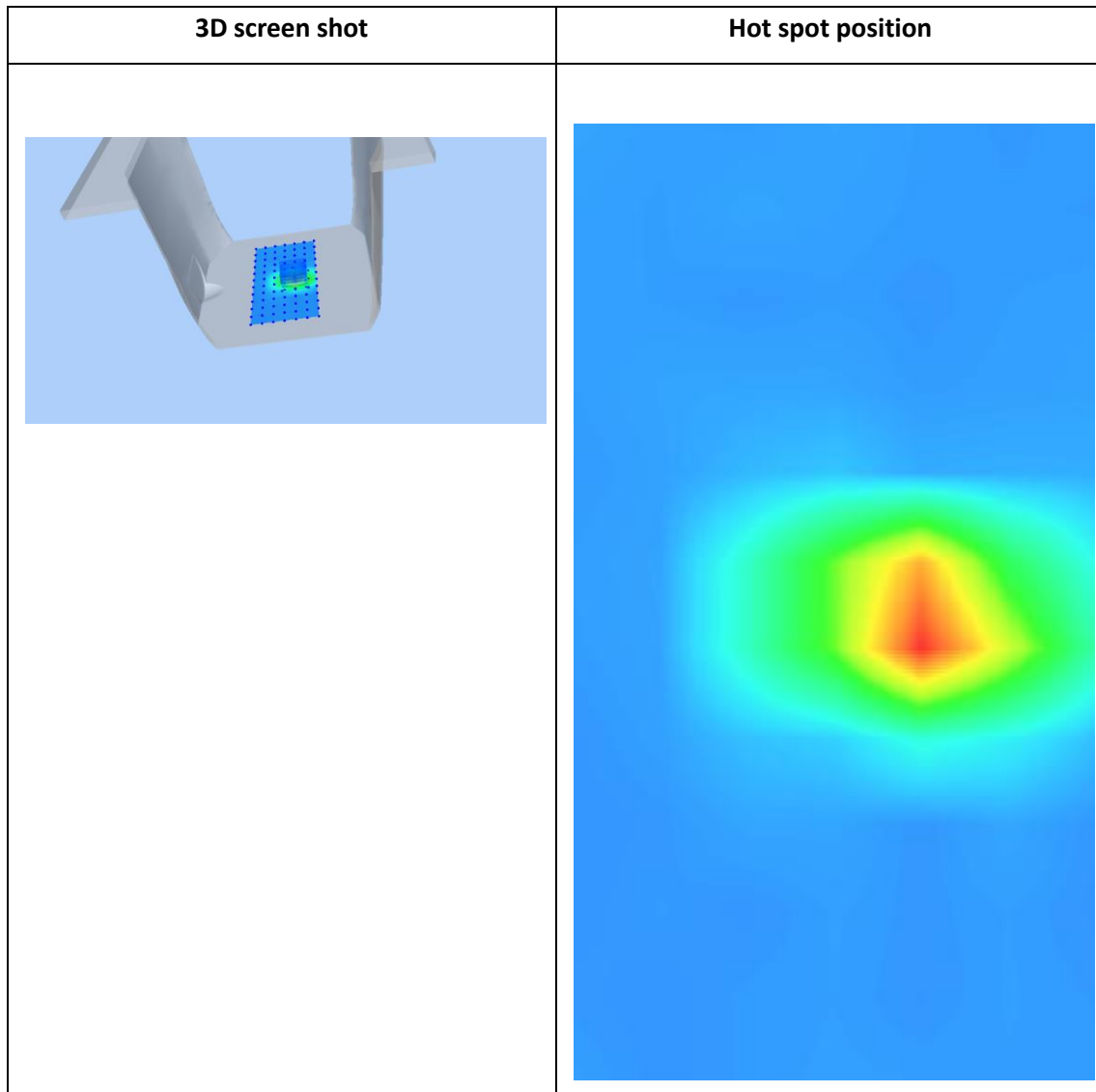
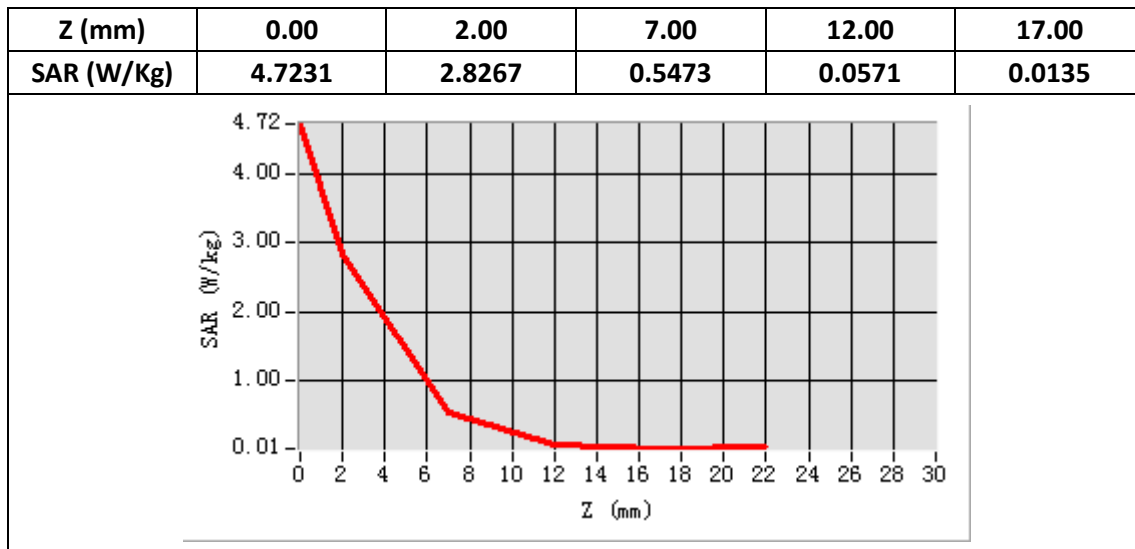
Band SAR

E-Field Probe	SATIMO SN_27/15_EP261
Frequency (MHz)	5400
Relative permittivity (real part)	37.81
Relative permittivity	16.66
Conductivity (S/m)	5.03
Power drift (%)	-1.14
Ambient Temperature:	22.2°C
Liquid Temperature:	22.5°C
ConvF:	2.07
Duty factor:	1:1



Maximum location: X=12.00, Y=-5.00

SAR 10g (W/Kg)	0.556999
SAR 1g (W/Kg)	1.584336



System Performance Check (Head, 5600MHz)

Type: Validation measurement

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

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

Date of measurement: 07/30/2018

Measurement duration: 22 minutes 17seconds

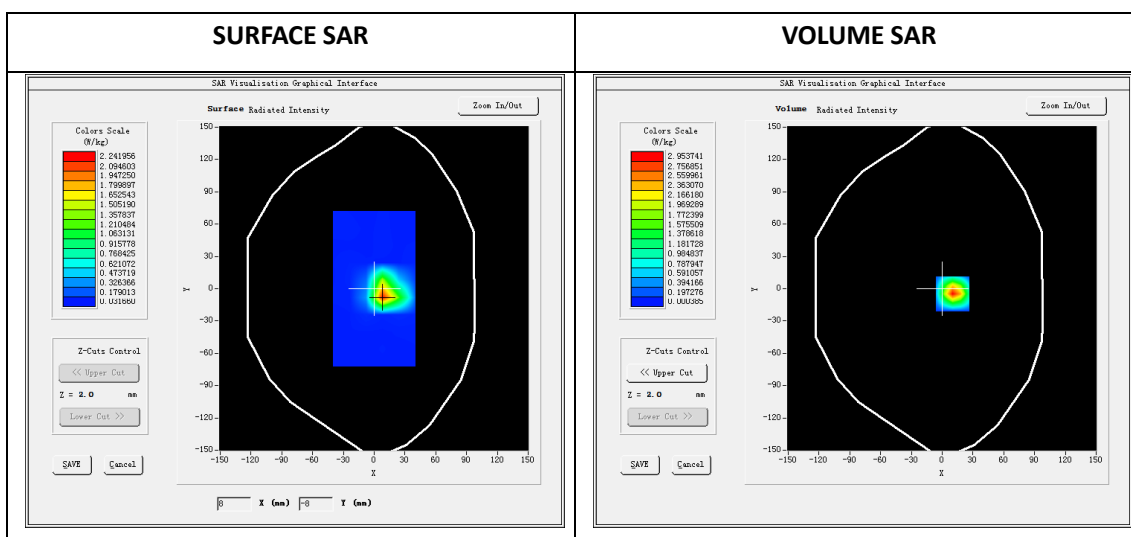
A. Experimental conditions.

Phantom File	dx=8mm dy=8mm
Phantom	5x5x7,dx=8mm dy=8mm dz=5mm
Device Position	Dipole
Band	5600MHz
Channels	
Signal	CW

B. SAR Measurement Results

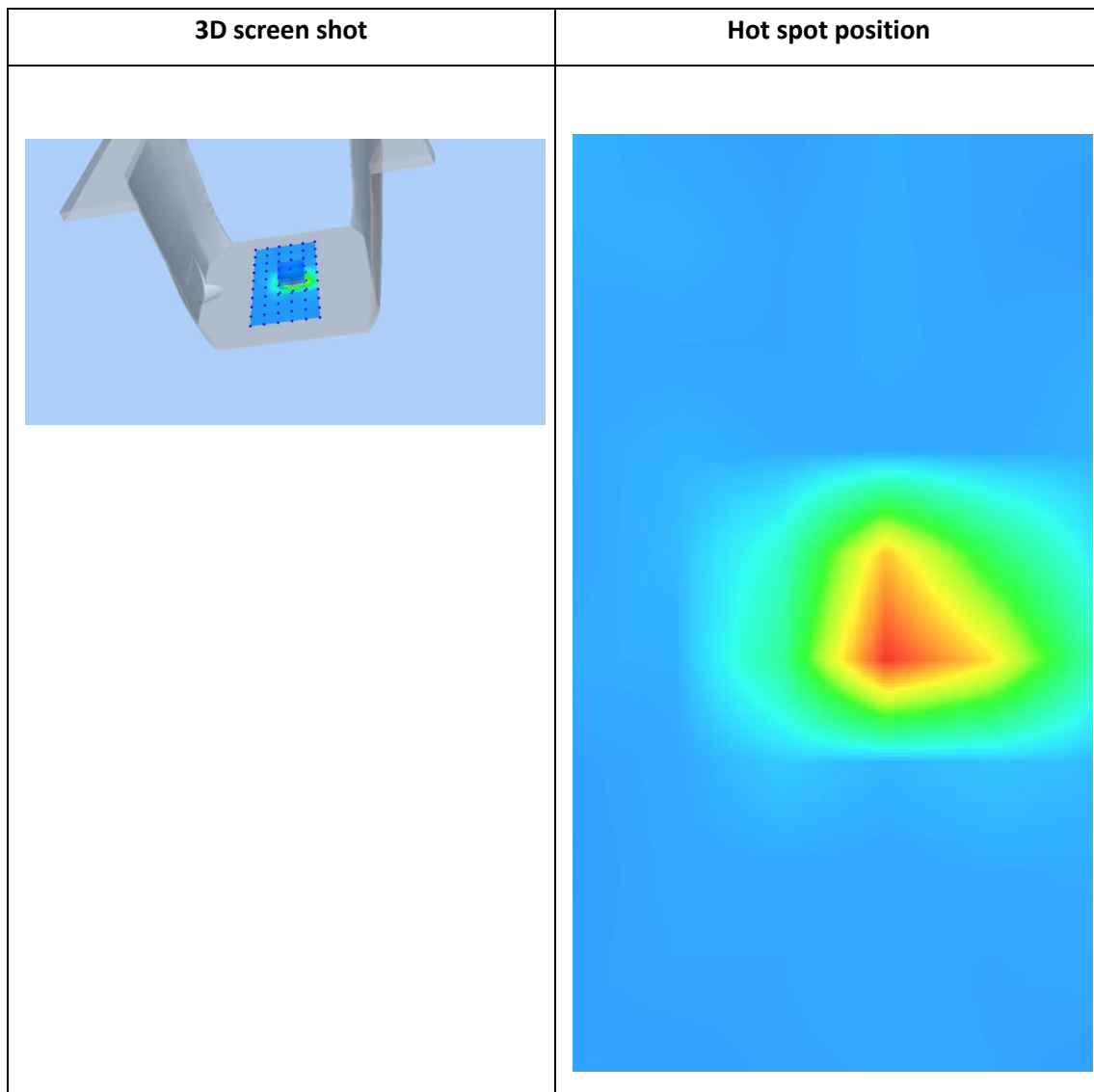
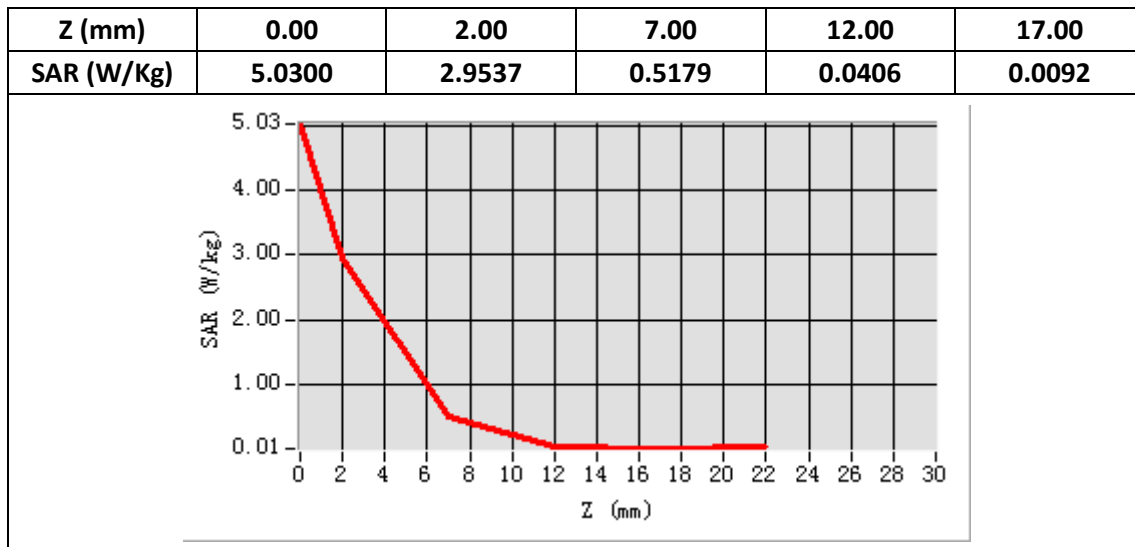
Band SAR

E-Field Probe	SATIMO SN_27/15_EP276
Frequency (MHz)	5600
Relative permittivity (real part)	36.33
Relative permittivity	15.68
Conductivity (S/m)	4.92
Power drift (%)	-2.47
Ambient Temperature:	22.2°C
Liquid Temperature:	22.5°C
ConvF:	2.18
Duty factor:	1:1



Maximum location: X=10.00, Y=-5.00

SAR 10g (W/Kg)	0.585760
SAR 1g (W/Kg)	1.663604



System Performance Check (Head, 5800MHz)

Type: Validation measurement

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

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

Date of measurement: 07/30/2018

Measurement duration: 22 minutes 05seconds

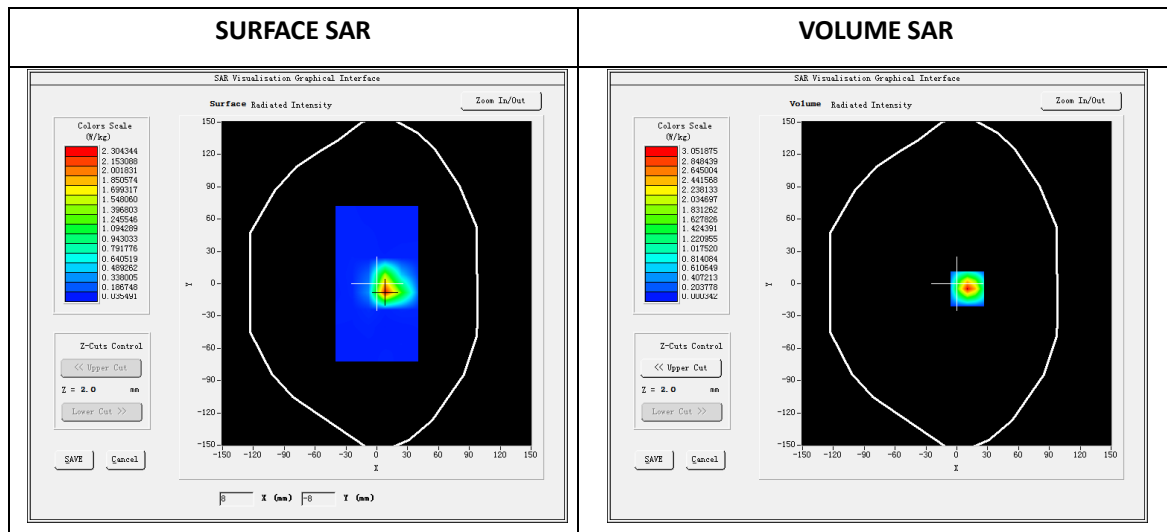
A. Experimental conditions.

Phantom File	dx=8mm dy=8mm
Phantom	5x5x7,dx=8mm dy=8mm dz=5mm
Device Position	Dipole
Band	5800MHz
Channels	
Signal	CW

B. SAR Measurement Results

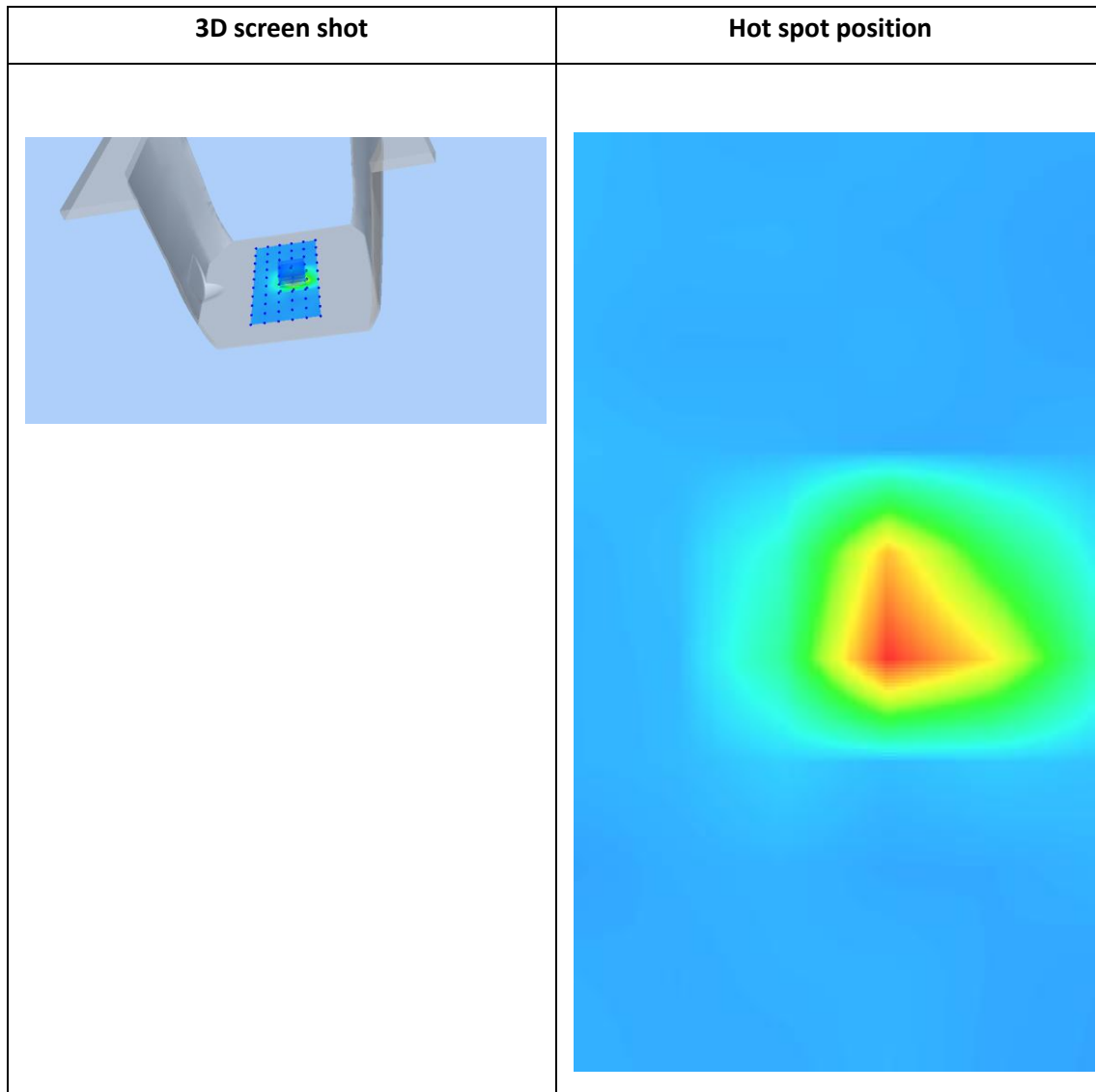
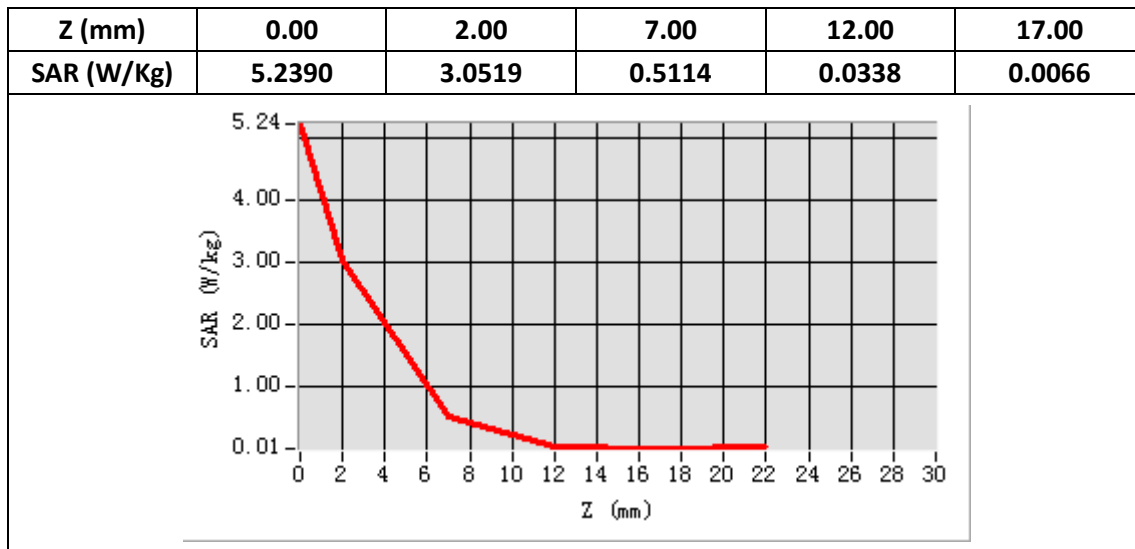
Band SAR

E-Field Probe	SATIMO SN_27/15_EP261
Frequency (MHz)	5800
Relative permittivity (real part)	37.72
Relative permittivity	16.21
Conductivity (S/m)	5.31
Power drift (%)	-2.10
Ambient Temperature:	22.2°C
Liquid Temperature:	22.5°C
ConvF:	2.26
Duty factor:	1:1



Maximum location: X=10.00, Y=-5.00

SAR 10g (W/Kg)	0.600529
SAR 1g (W/Kg)	1.710436



System Performance Check (Body, 835MHz)

Type: Validation measurement

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

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

Date of measurement: 07/23/2018

Measurement duration: 22 minutes 25seconds

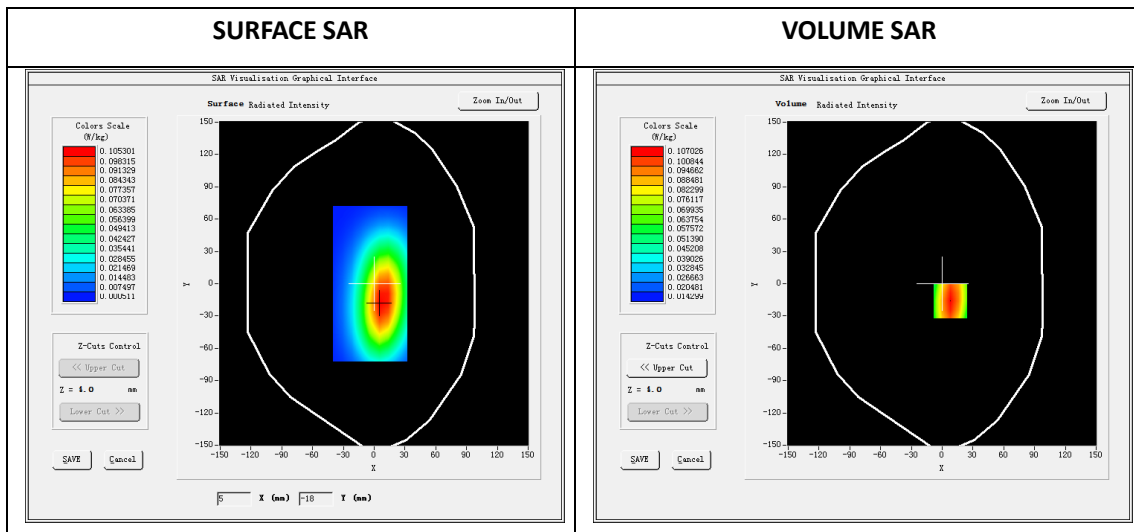
A. Experimental conditions.

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

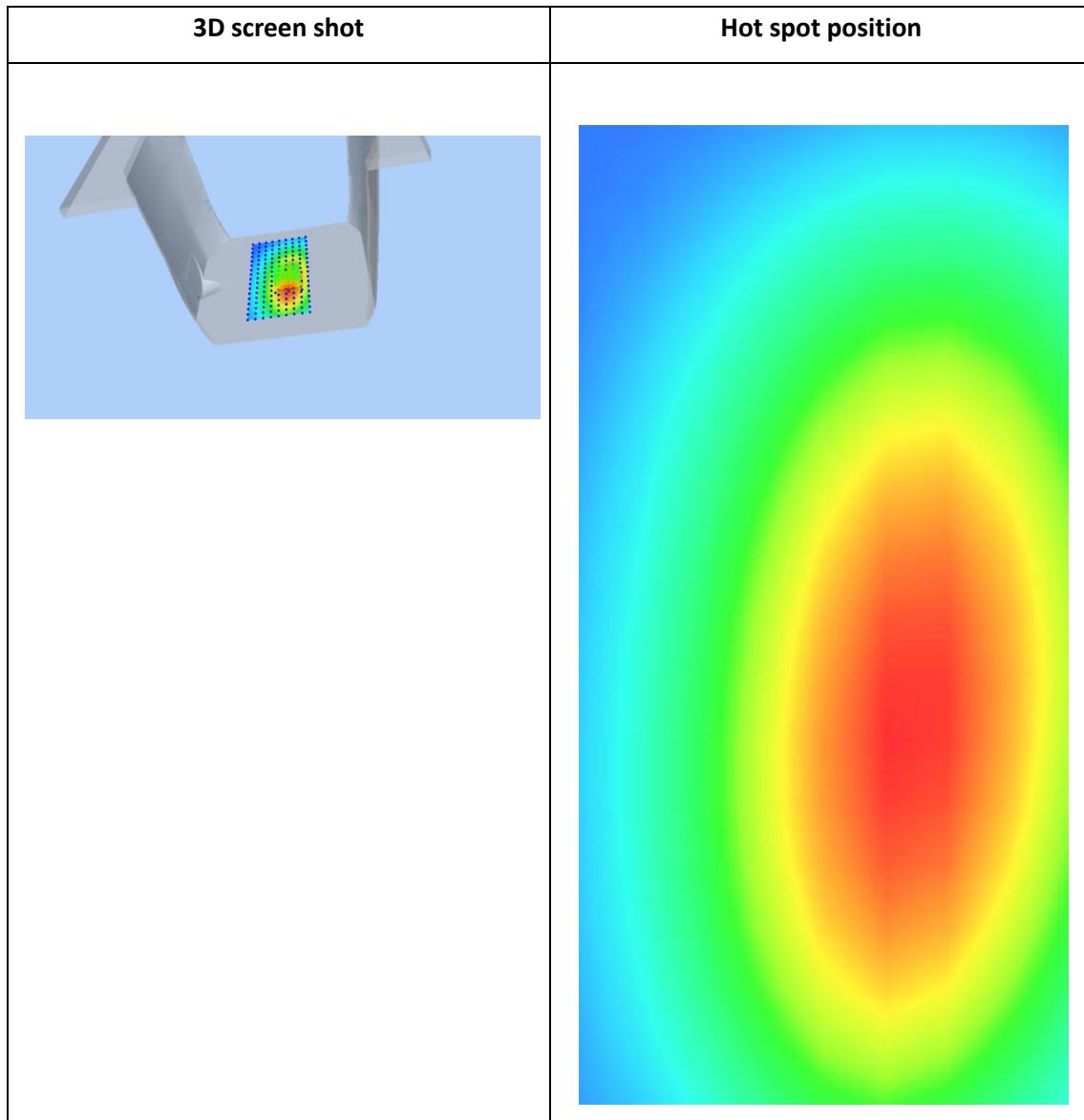
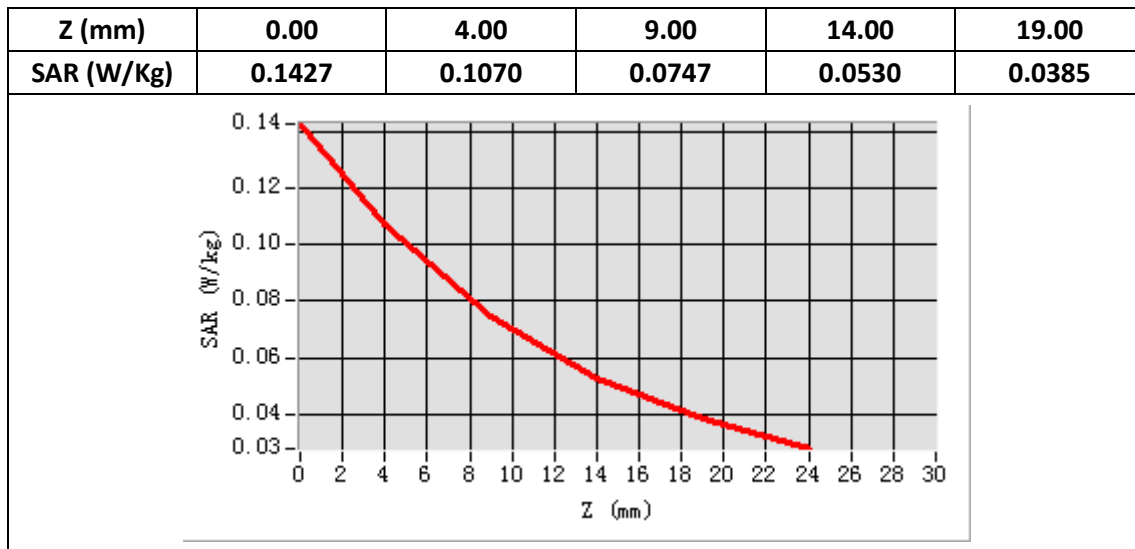
Band SAR

E-Field Probe	SATIMO SN_43/15_EP276
Frequency (MHz)	835
Relative permittivity (real part)	55.35
Relative permittivity	20.35
Conductivity (S/m)	0.91
Power drift (%)	-0.39
Ambient Temperature:	22.2°C
Liquid Temperature:	22.5°C
ConvF:	5.18
Duty factor:	1:1



Maximum location: X=8.00, Y=-16.00

SAR 10g (W/Kg)	0.067410
SAR 1g (W/Kg)	0.101616



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: 07/24/2018

Measurement duration: 22 minutes 41 seconds

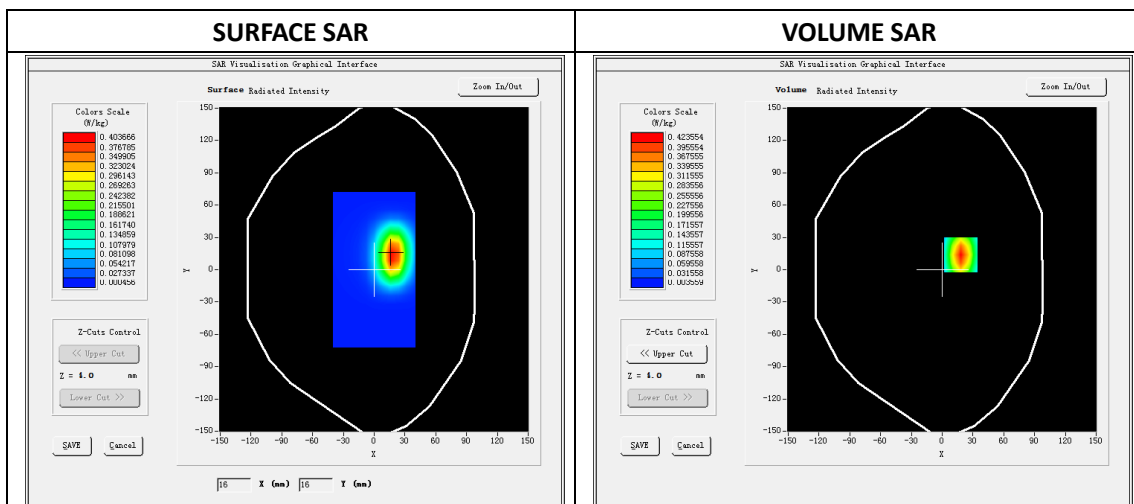
A. Experimental conditions.

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

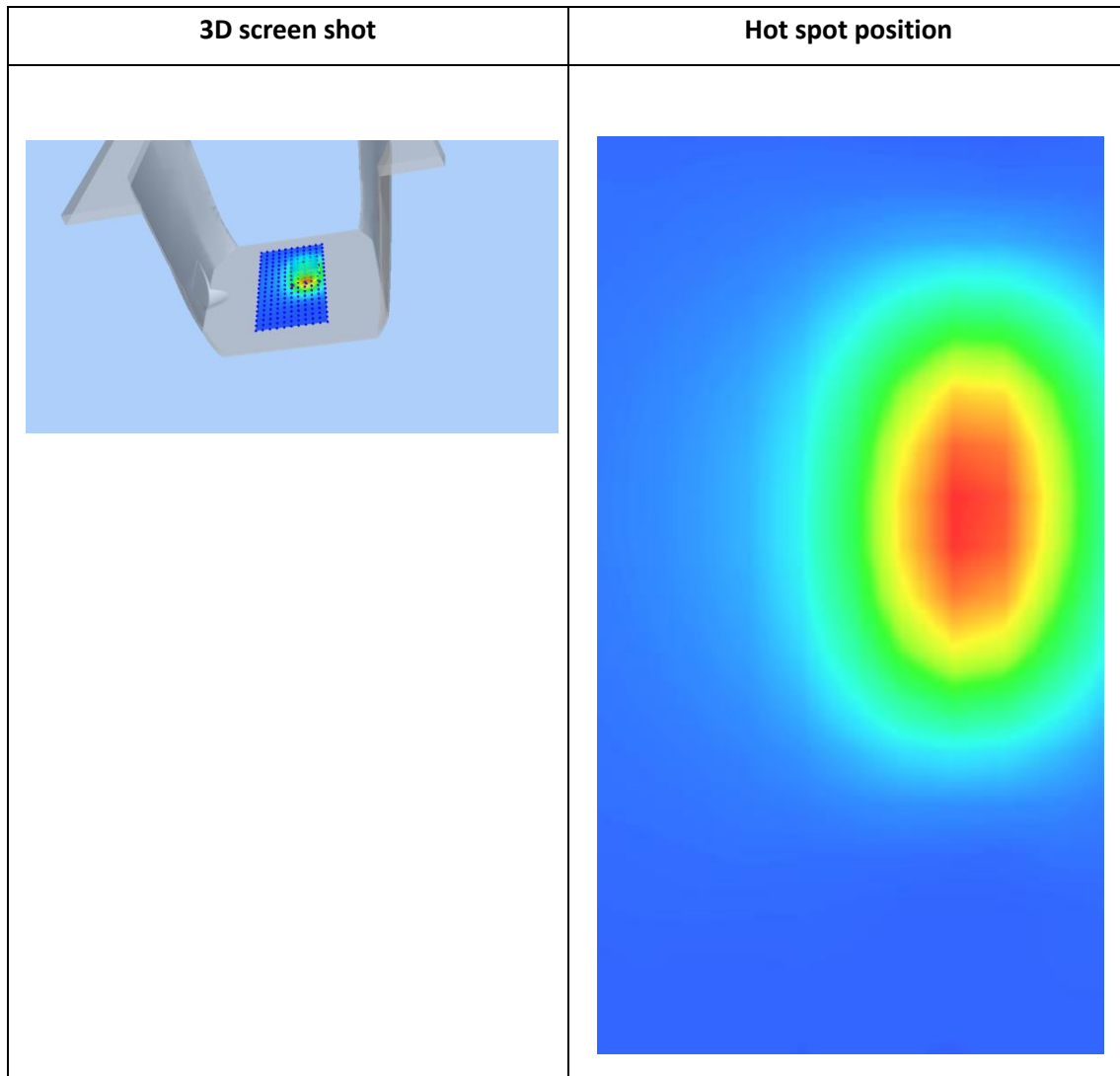
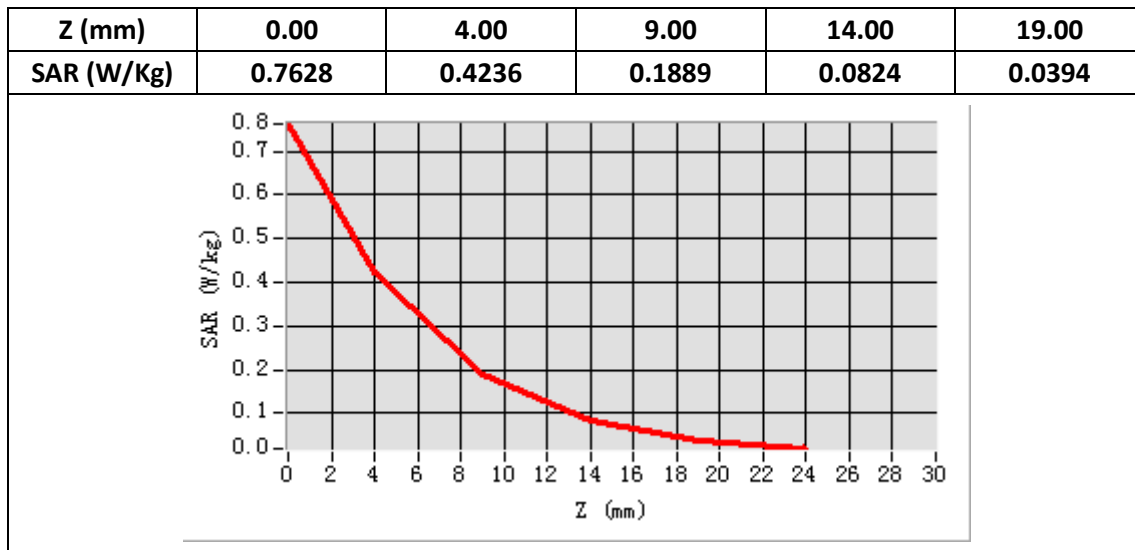
Band SAR

E-Field Probe	SATIMO SN_43/15_EP276
Frequency (MHz)	1900
Relative permittivity (real part)	53.94
Relative permittivity	14.15
Conductivity (S/m)	1.53
Power Drift (%)	-0.24
Ambient Temperature:	22.1°C
Liquid Temperature:	22.6°C
ConvF:	4.83
Duty factor:	1:1



Maximum location: X=18.00, Y=14.00

SAR 10g (W/Kg)	0.183322
SAR 1g (W/Kg)	0.394447



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: 07/25/2018

Measurement duration: 22 minutes 41 seconds

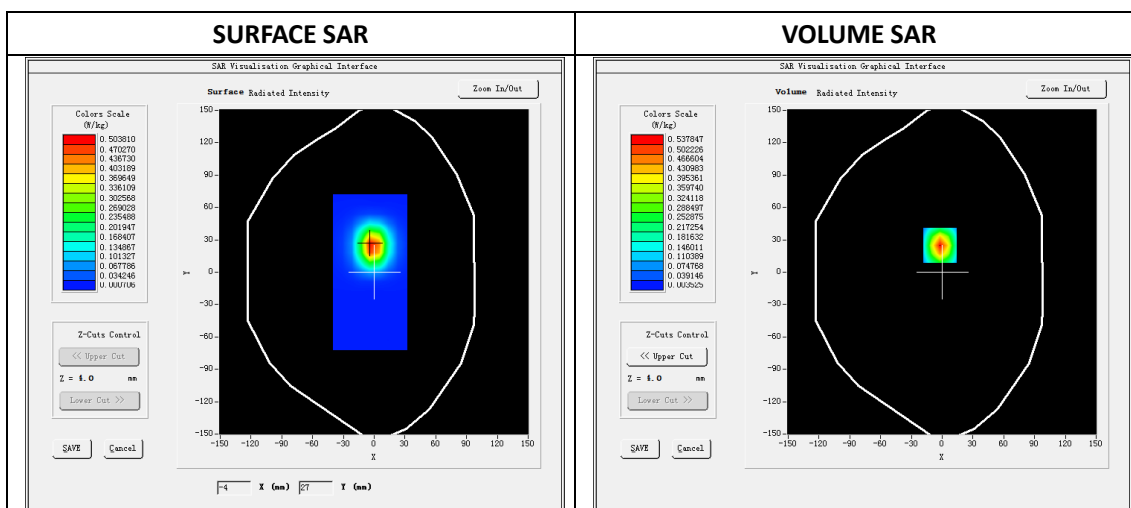
A. Experimental conditions.

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

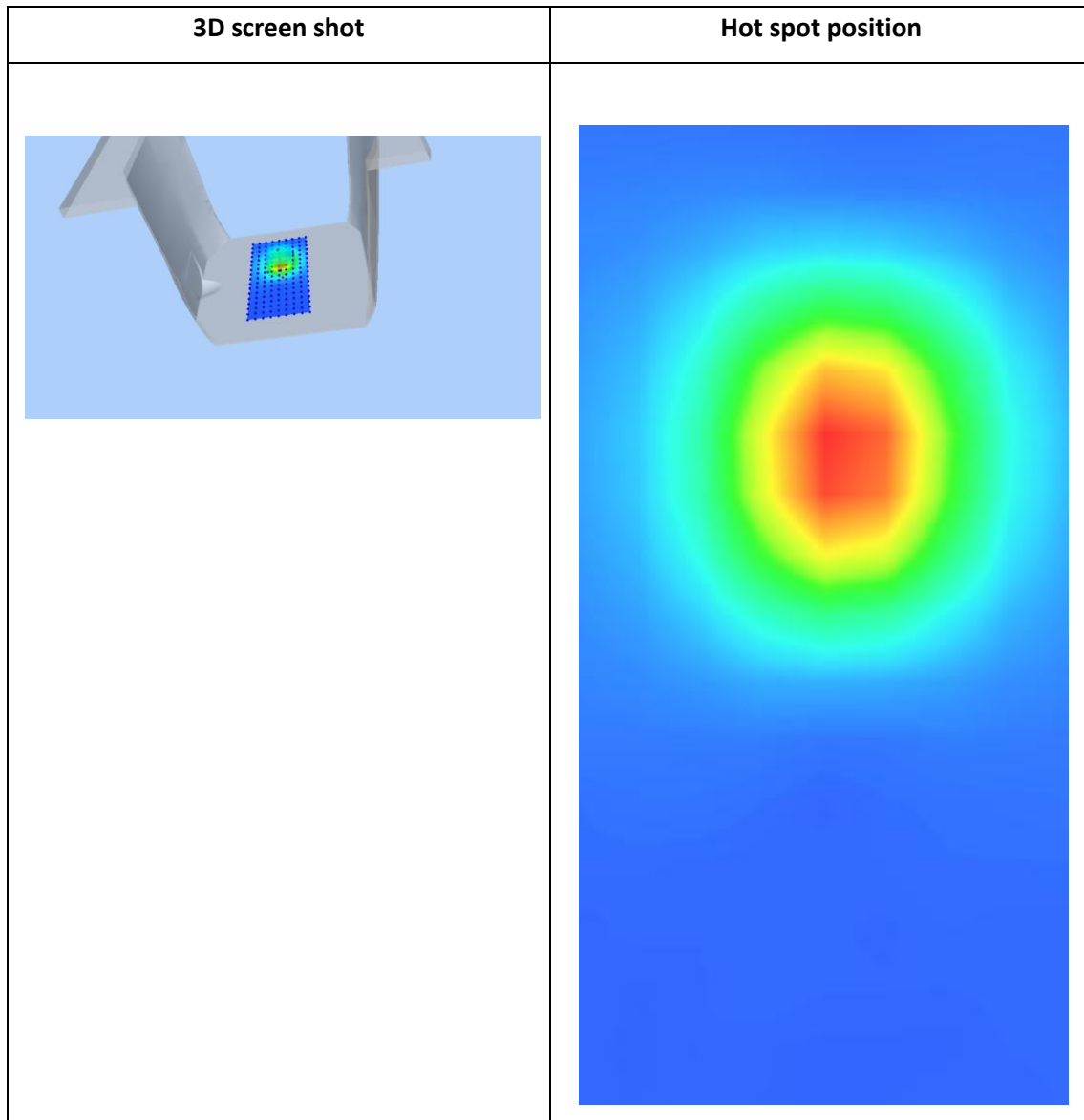
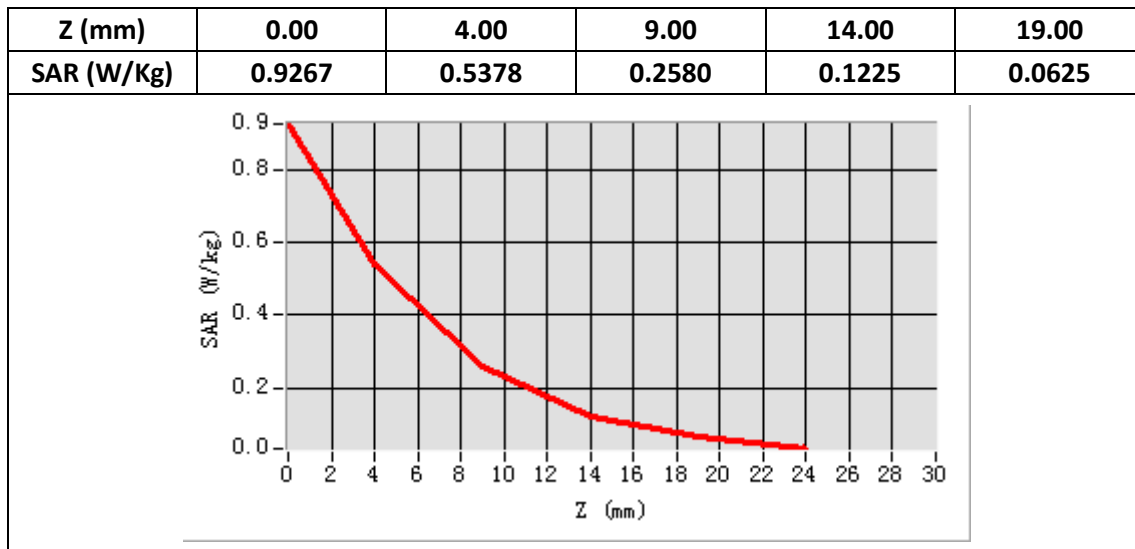
Band SAR

E-Field Probe	SATIMO SN_43/15_EP276
Frequency (MHz)	2450
Relative permittivity (real part)	52.35
Relative permittivity	15.11
Conductivity (S/m)	1.91
Power Drift (%)	-0.09
Duty factor:	1:1
ConvF:	4.61



Maximum location: X=-2.00, Y=25.00

SAR 10g (W/Kg)	0.238439
SAR 1g (W/Kg)	0.520272



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: 07/26/2018

Measurement duration: 22 minutes 33 seconds

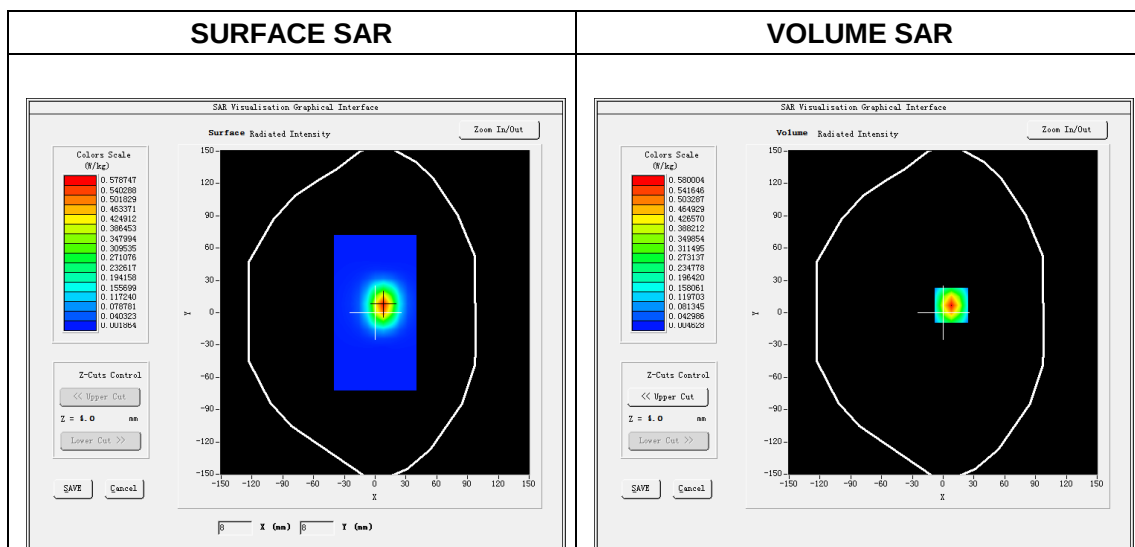
A. Experimental conditions.

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

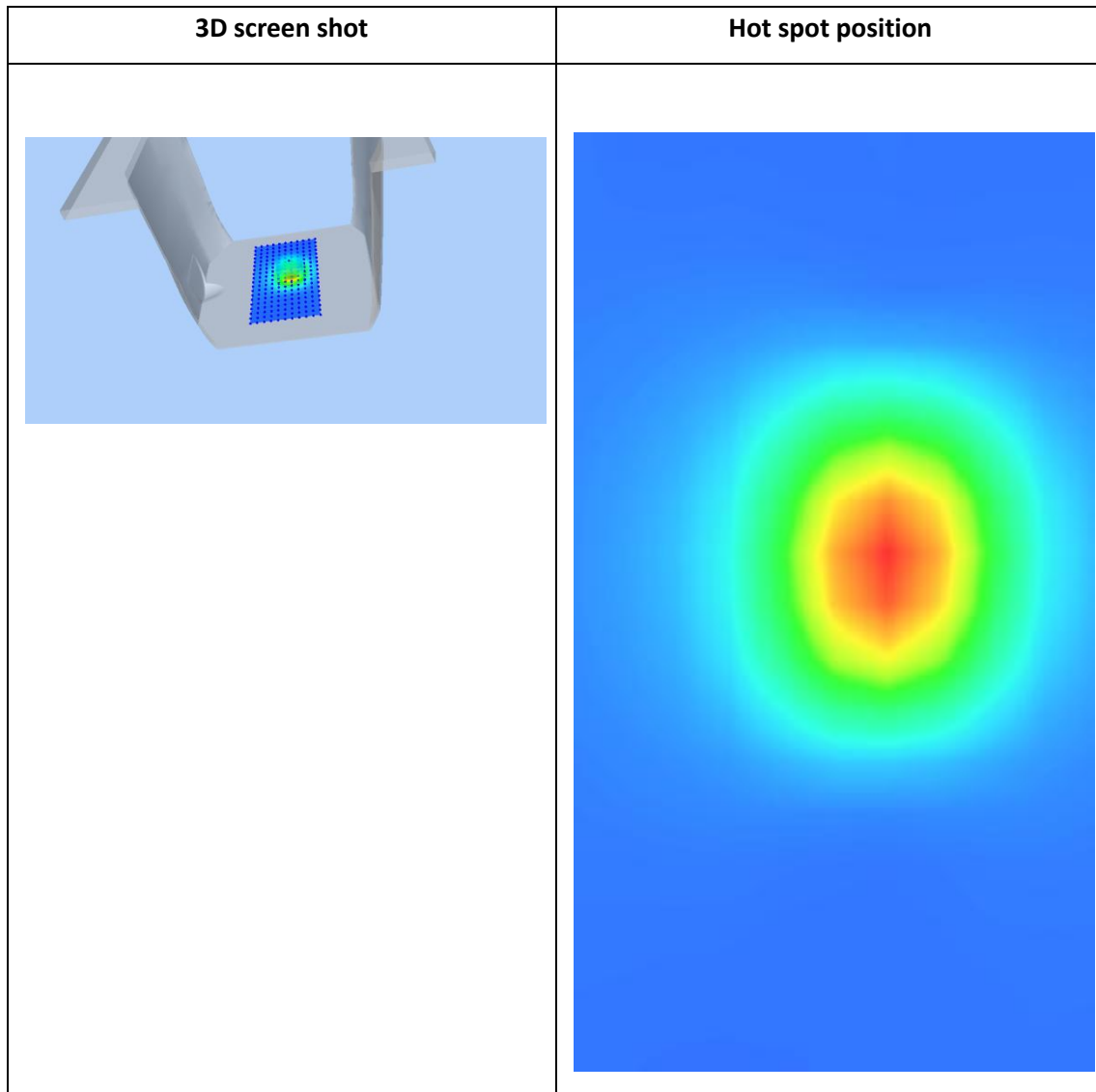
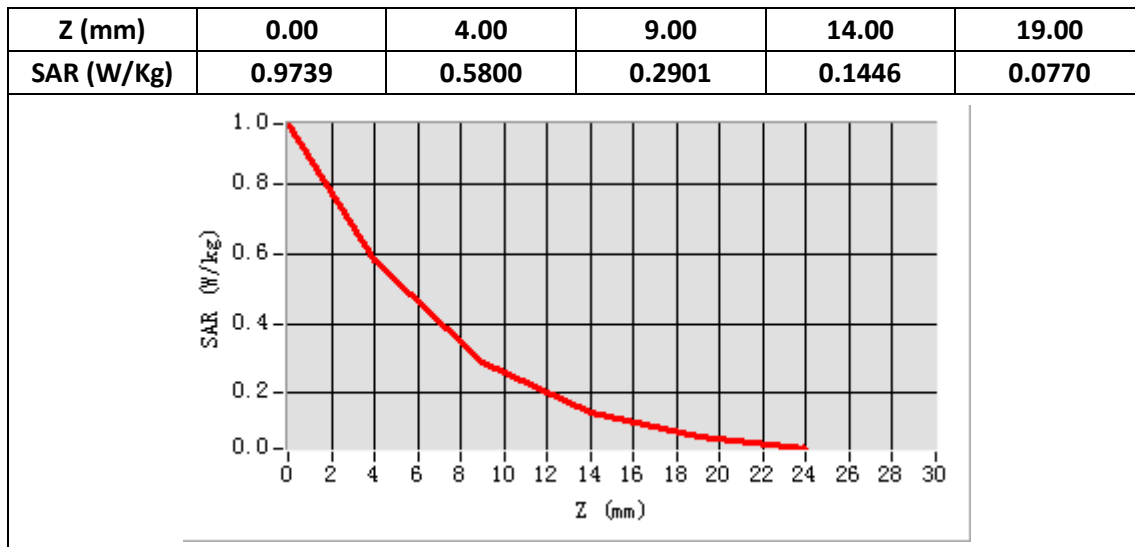
Band SAR

E-Field Probe	SATIMO SN_43/15_EP276
Frequency (MHz)	2600
Relative permittivity (real part)	52.42
Relative permittivity	14.23
Conductivity (S/m)	2.02
Power drift (%)	-0.34
Ambient Temperature:	22.2°C
Liquid Temperature:	22.5°C
Crest factor:	1:1
ConvF:	4.28



Maximum location: X=8.00, Y=7.00

SAR 10g (W/Kg)	0.250298
SAR 1g (W/Kg)	0.557546



System Performance Check (Body, 5200MHz)

Type: Phone measurement

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

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

Date of measurement: 07/27/2018

Measurement duration: 22 minutes 15 seconds

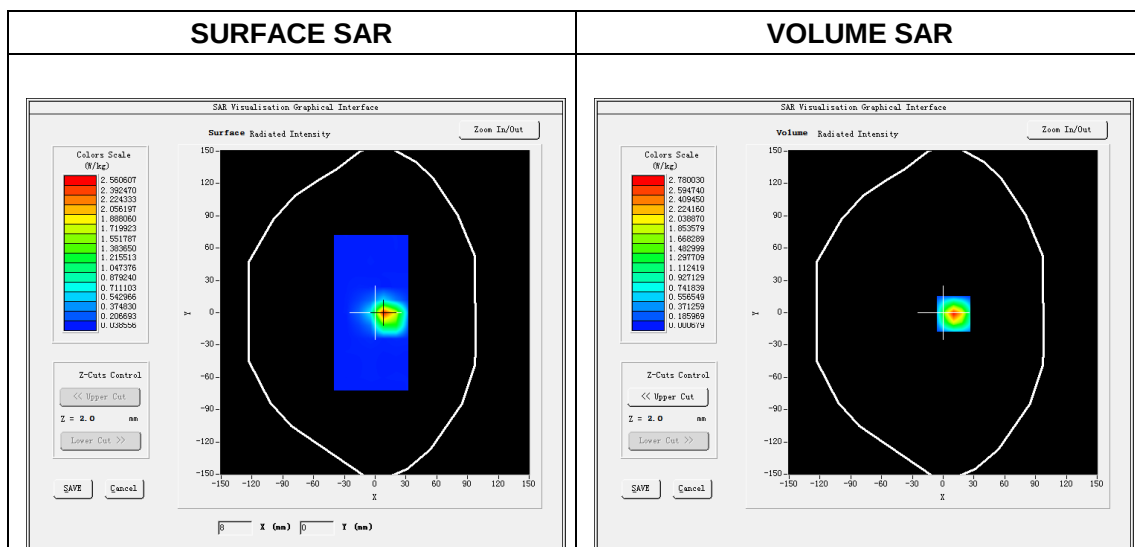
A. Experimental conditions.

Phantom File	dx=8mm dy=8mm
Phantom	7x7x8,dx=5mm dy=5mm dz=4mm
Device Position	Dipole
Band	5200MHz
Channels	
Signal	CW

B. SAR Measurement Results

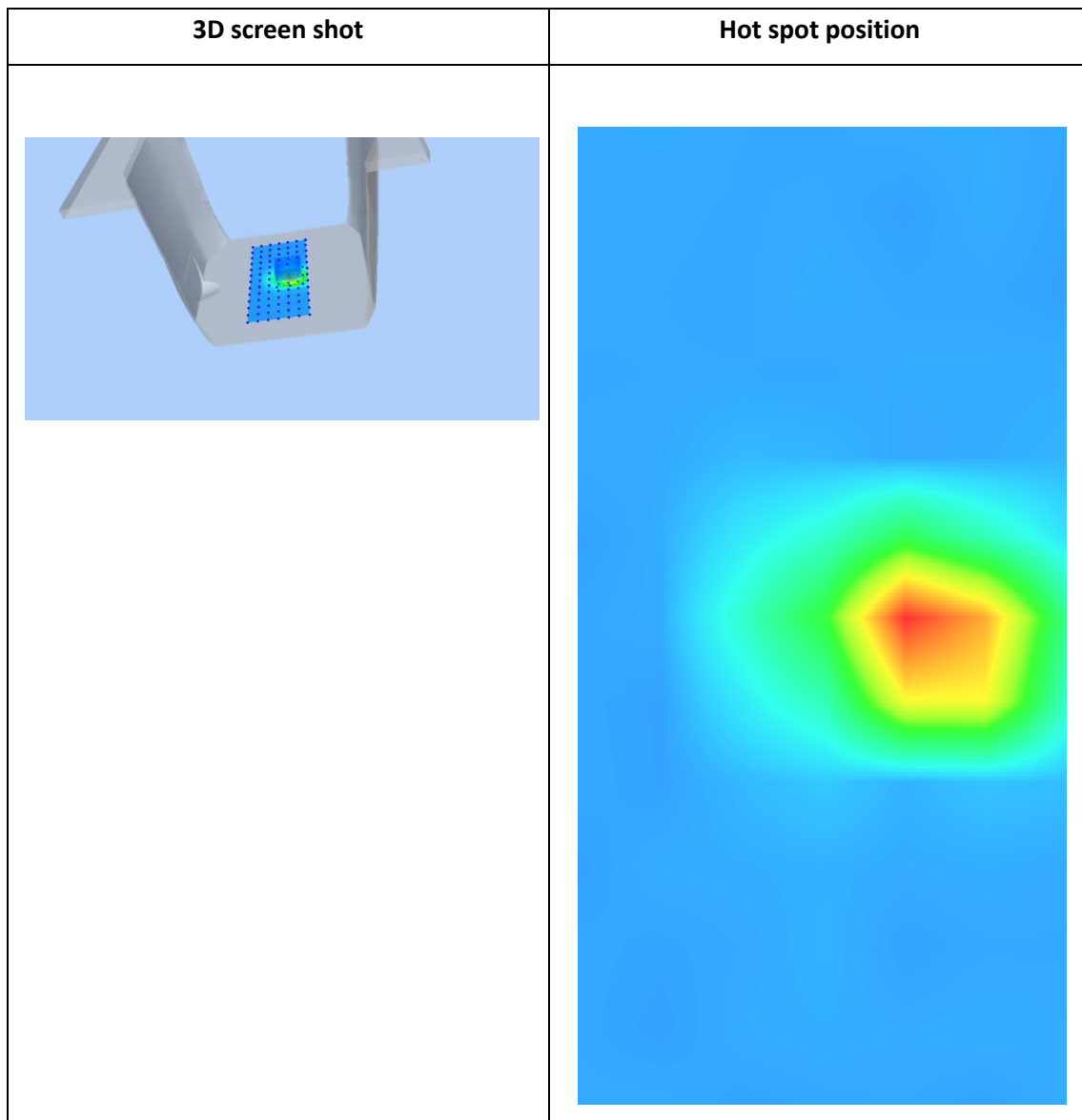
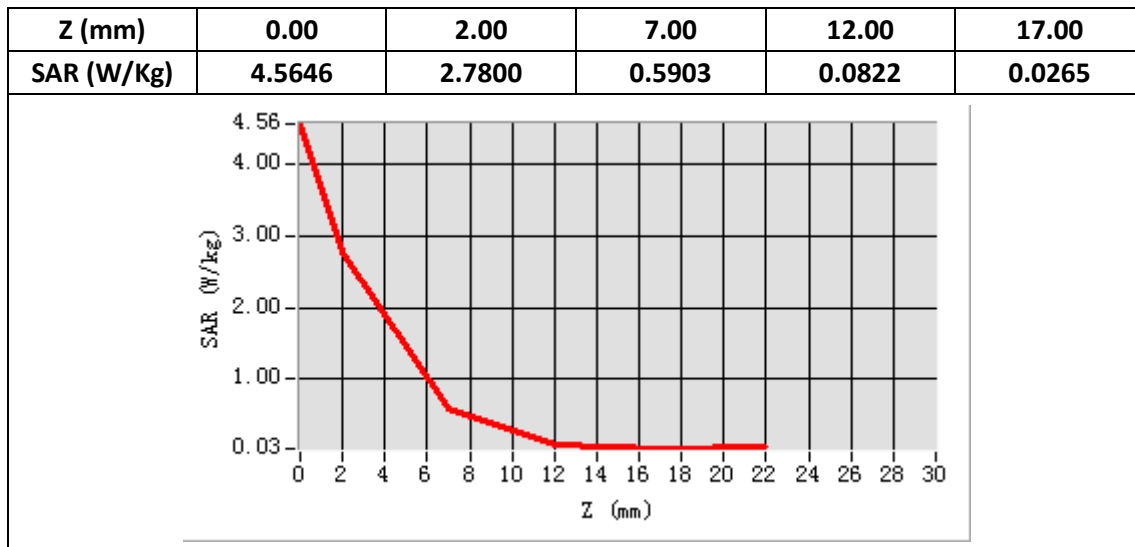
Band SAR

E-Field Probe	SATIMO SN_27/15_EP261
Frequency (MHz)	5200
Relative permittivity (real part)	49.53
Relative permittivity	18.38
Conductivity (S/m)	5.24
Power drift (%)	-0.10
Ambient Temperature:	22.2°C
Liquid Temperature:	22.5°C
Crest factor:	1:1
ConvF:	2.27



Maximum location: X=10.00, Y=-1.00

SAR 10g (W/Kg)	0.564274
SAR 1g (W/Kg)	1.574019



System Performance Check (Body, 5400MHz)

Type: Phone measurement

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

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

Date of measurement: 07/27/2018

Measurement duration: 22 minutes 11 seconds

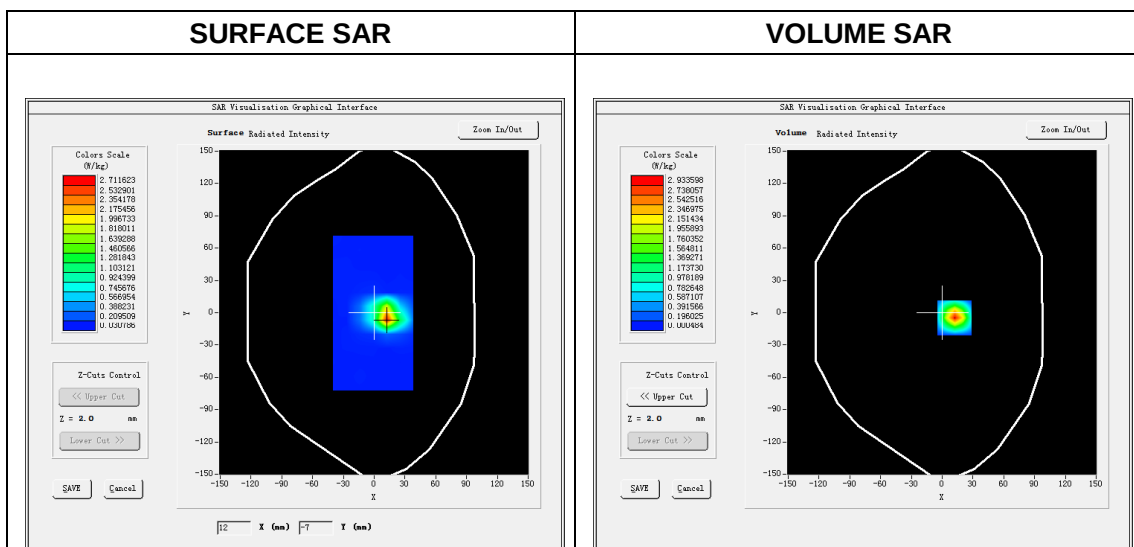
A. Experimental conditions.

Phantom File	dx=8mm dy=8mm
Phantom	7x7x8,dx=5mm dy=5mm dz=4mm
Device Position	Dipole
Band	5400MHz
Channels	
Signal	CW

B. SAR Measurement Results

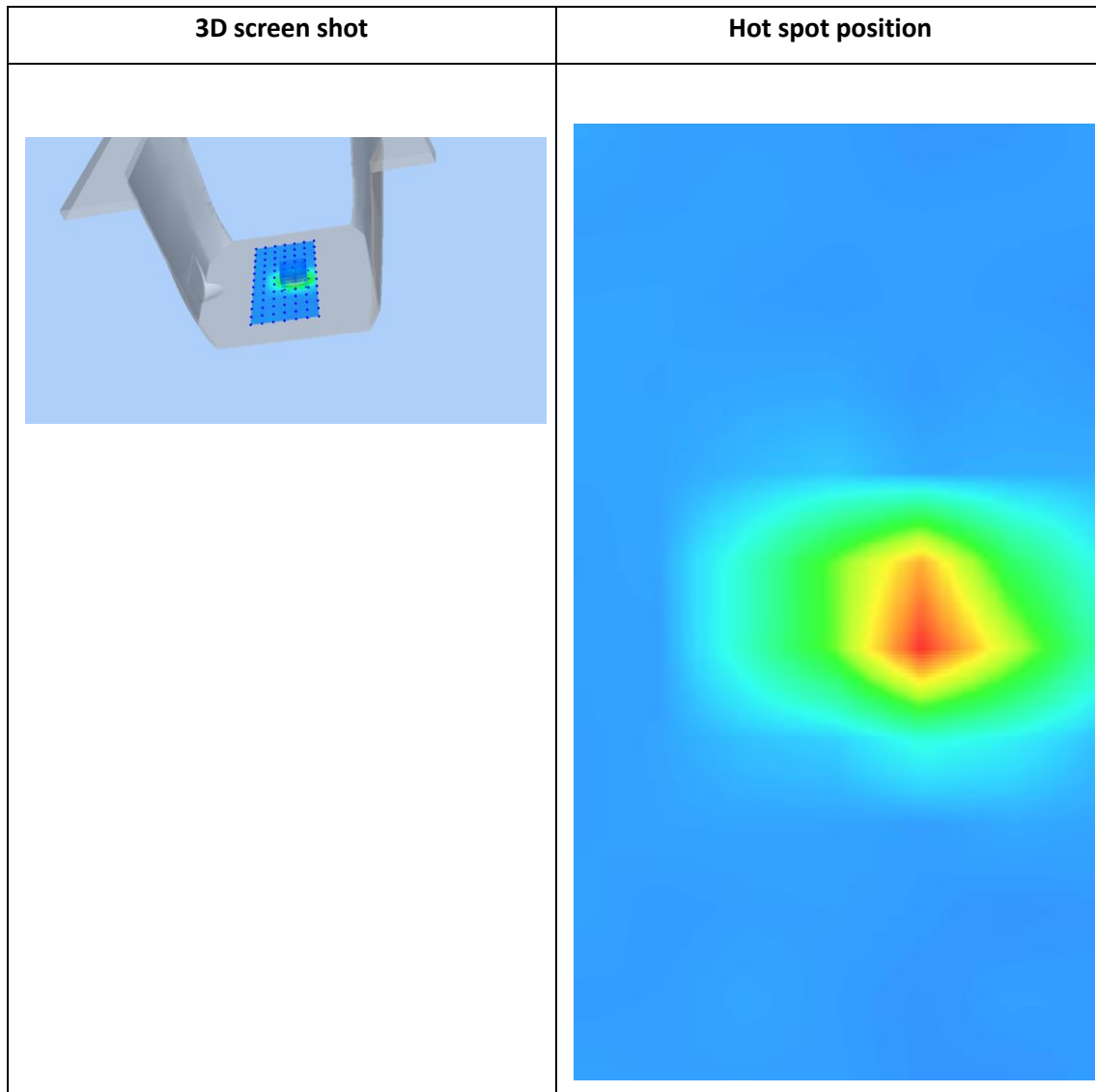
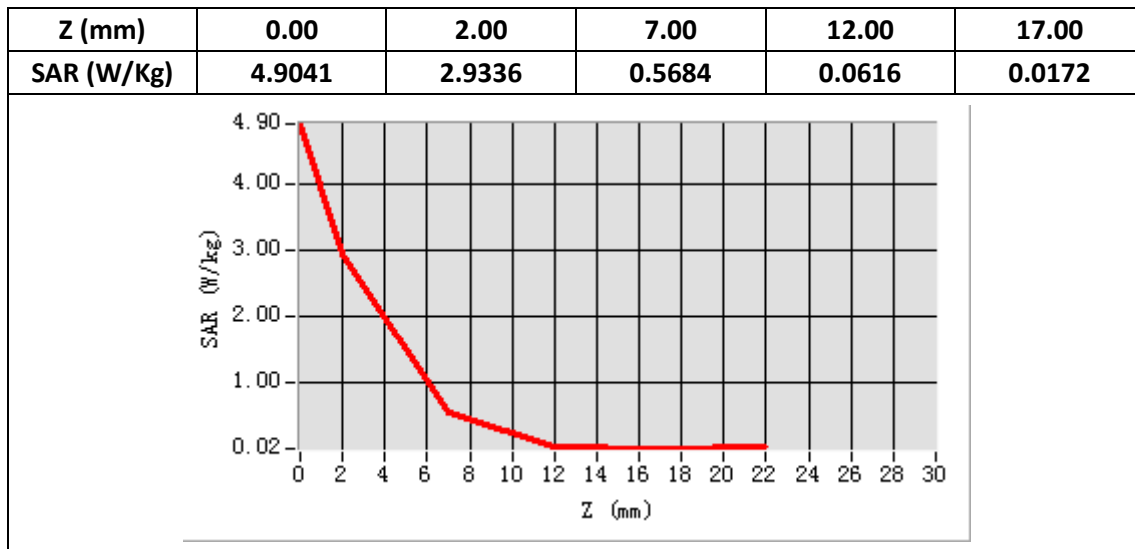
Band SAR

E-Field Probe	SATIMO SN_27/15_EP261
Frequency (MHz)	5400
Relative permittivity (real part)	48.31
Relative permittivity	18.25
Conductivity (S/m)	5.43
Power drift (%)	-1.32
Ambient Temperature:	22.2°C
Liquid Temperature:	22.5°C
Crest factor:	1:1
ConvF:	2.14



Maximum location: X=12.00, Y=-5.00

SAR 10g (W/Kg)	0.581585
SAR 1g (W/Kg)	1.647127



System Performance Check (Body, 5600MHz)

Type: Phone measurement

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

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

Date of measurement: 07/30/2018

Measurement duration: 22 minutes 23 seconds

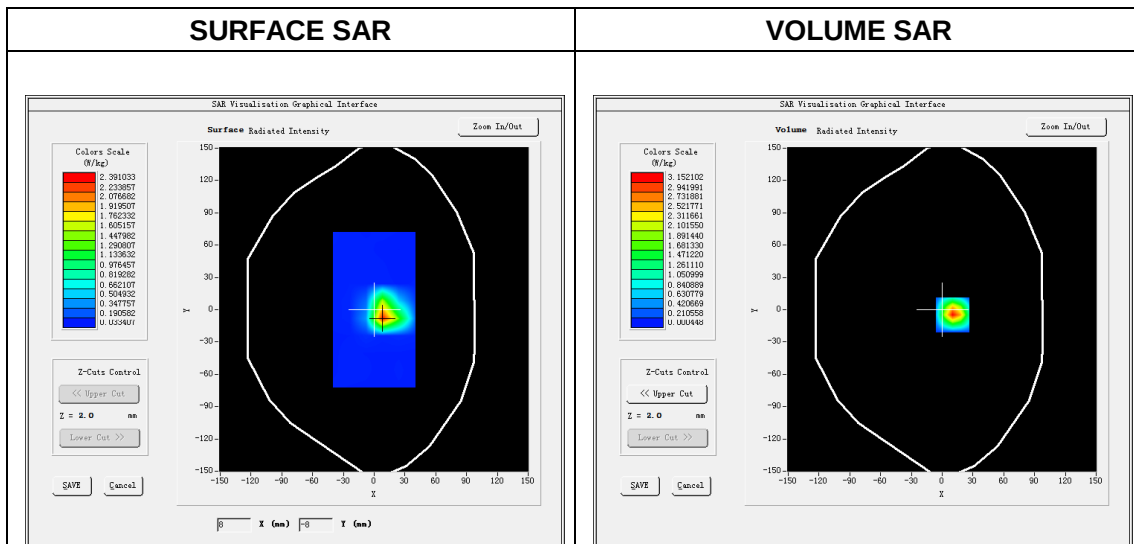
A. Experimental conditions.

Phantom File	dx=8mm dy=8mm
Phantom	7x7x8,dx=5mm dy=5mm dz=4mm
Device Position	Dipole
Band	5600MHz
Channels	
Signal	CW

B. SAR Measurement Results

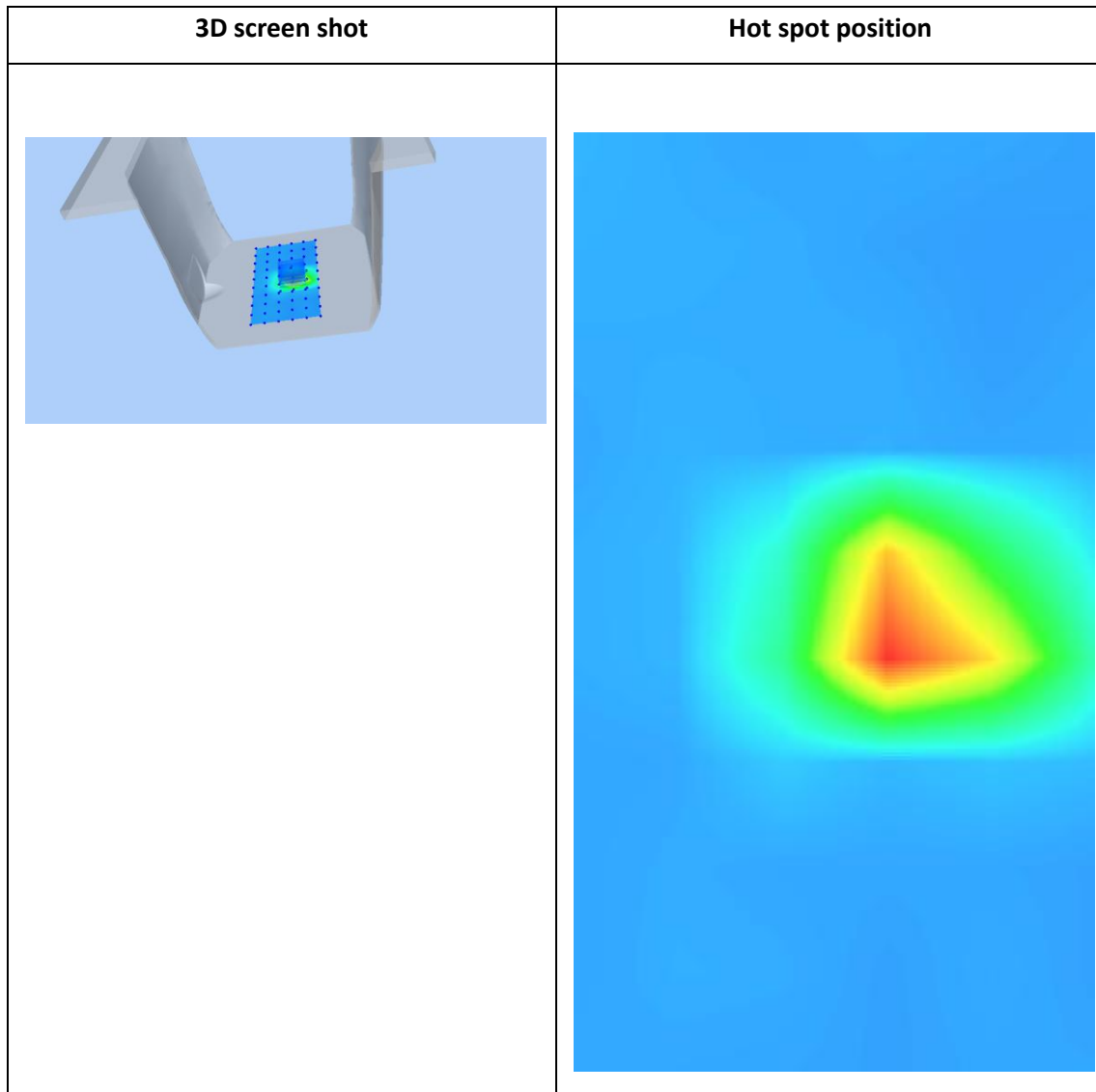
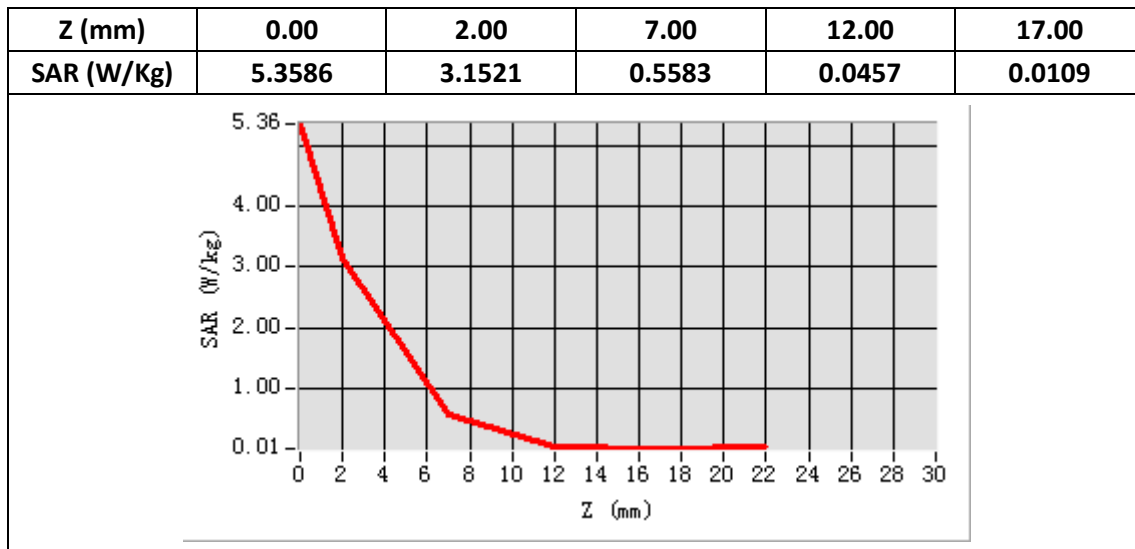
Band SAR

E-Field Probe	SATIMO SN_27/15_EP261
Frequency (MHz)	5600
Relative permittivity (real part)	48.13
Relative permittivity	17.02
Conductivity (S/m)	5.35
Power drift (%)	-2.39
Ambient Temperature:	22.2°C
Liquid Temperature:	22.5°C
Crest factor:	1:1
ConvF:	2.24



Maximum location: X=10.00, Y=-5.00

SAR 10g (W/Kg)	0.629203
SAR 1g (W/Kg)	1.778724



System Performance Check (Body, 5800MHz)

Type: Phone measurement

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

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

Date of measurement: 07/30/2018

Measurement duration: 22 minutes 03 seconds

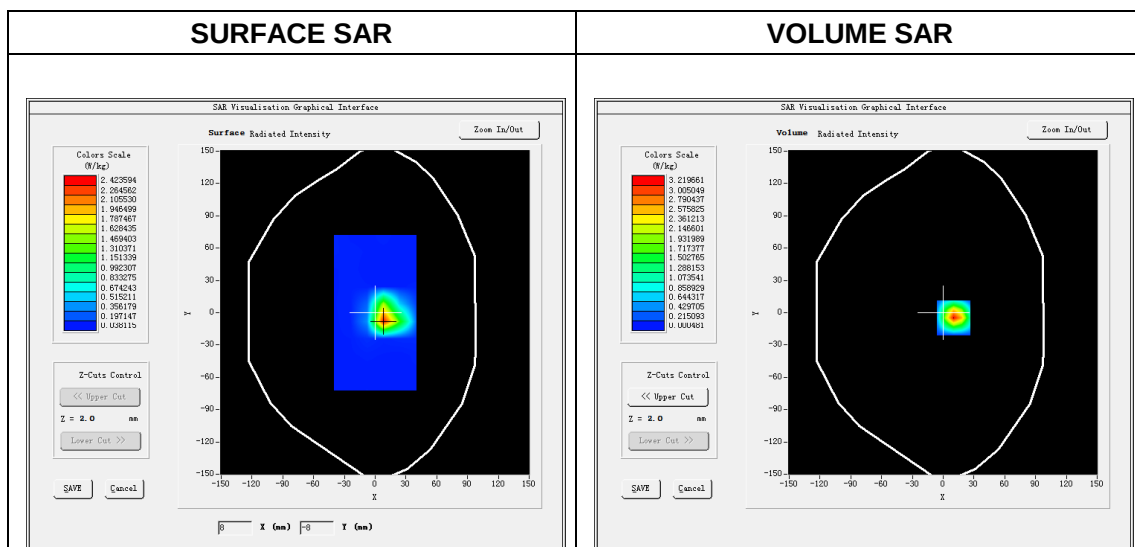
A. Experimental conditions.

Phantom File	dx=8mm dy=8mm
Phantom	7x7x8,dx=5mm dy=5mm dz=4mm
Device Position	Dipole
Band	5800MHz
Channels	
Signal	CW

B. SAR Measurement Results

Band SAR

E-Field Probe	SATIMO SN_27/15_EP261
Frequency (MHz)	5800
Relative permittivity (real part)	48.25
Relative permittivity	18.13
Conductivity (S/m)	5.87
Power drift (%)	-1.82
Ambient Temperature:	22.2°C
Liquid Temperature:	22.5°C
Crest factor:	1:1
ConvF:	2.32



Maximum location: X=10.00, Y=-5.00

SAR 10g (W/Kg)	0.636853
SAR 1g (W/Kg)	1.809761

