

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

Measurement	Liquid	Frequency	Test Date
System Check	Head	750	2019-02-12
System Check	Body	750	2019-02-12
System Check	Head	850	2019-01-30
System Check	Body	850	2019-01-30
System Check	Head	1800	2019-01-31
System Check	Body	1800	2019-01-31
System Check	Head	1900	2019-02-01
System Check	Body	1900	2019-02-01
System Check	Head	2450	2019-02-02
System Check	Body	2450	2019-02-02
System Check	Head	2600	2019-02-11
System Check	Body	2600	2019-02-11

System Performance Check (Head, 750MHz)

Type: Phone measurement

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

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

Date of measurement: 02/12/2019

Measurement duration: 22 minutes 15 seconds

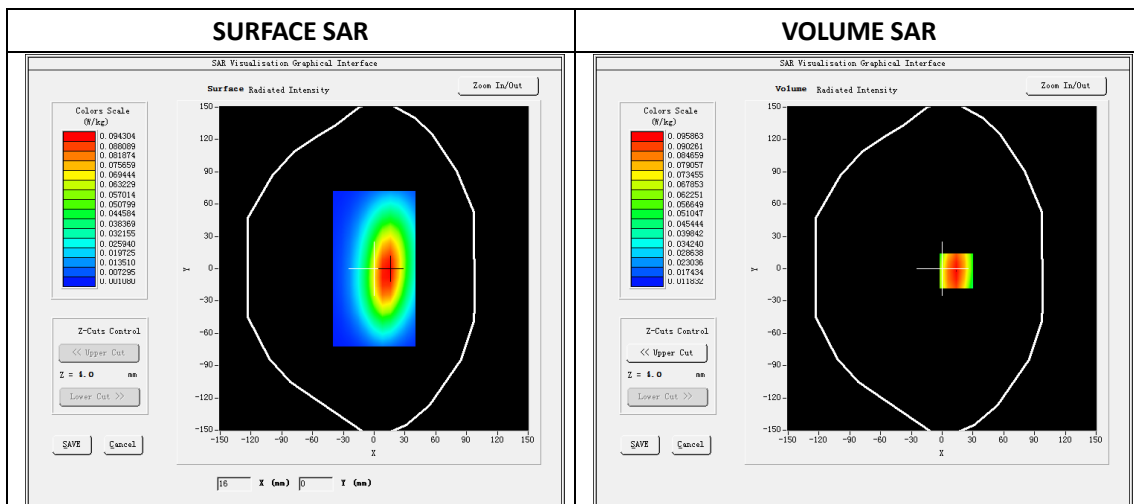
A. Experimental conditions.

Phantom File	dx=8mm dy=8mm
Phantom	5x5x7,dx=8mm dy=8mm dz=5mm
Device Position	Dipole
Band	750MHz
Channels	
Signal	CW

B. SAR Measurement Results

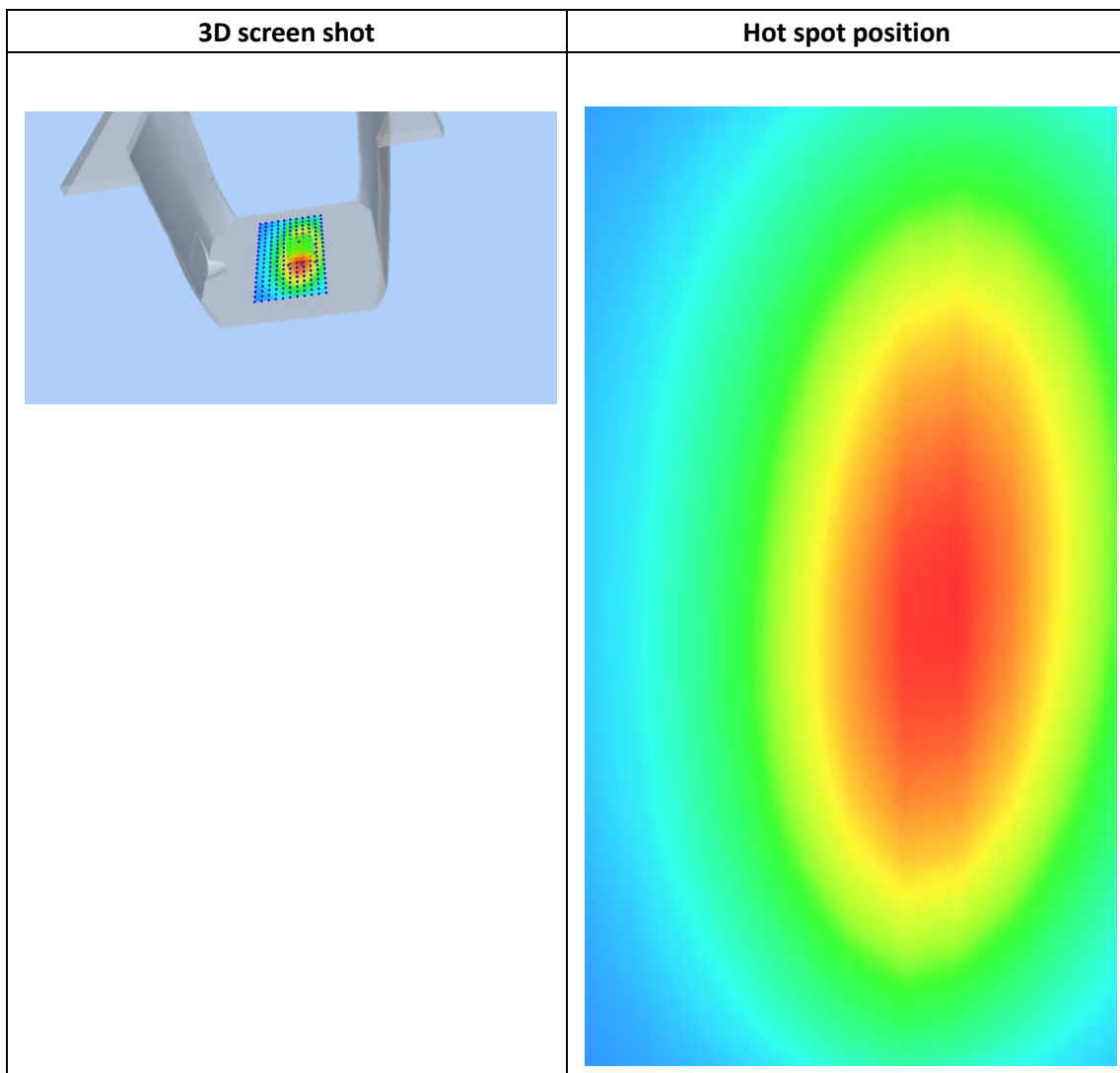
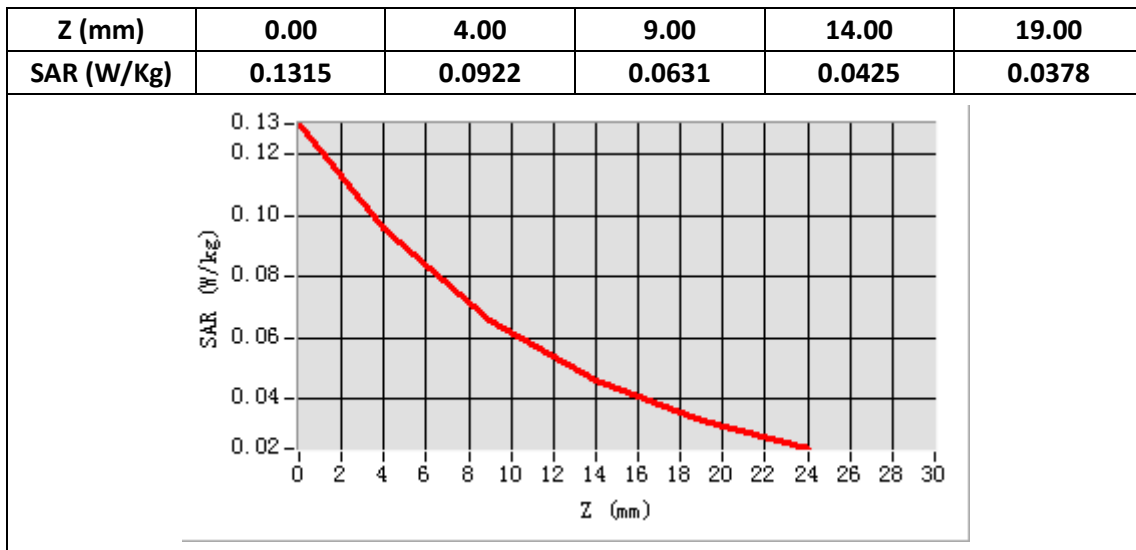
Band SAR

E-Field Probe	SATIMO SN_04/13_EP166
Frequency (MHz)	750
Relative permittivity (real part)	41.85
Relative permittivity	21.43
Conductivity (S/m)	0.88
Power drift (%)	-0.15
Ambient Temperature:	22.2°C
Liquid Temperature:	22.6°C
ConvF:	5.74
Crest factor:	1:1



Maximum location: X=1400, Y=-2.00

SAR 10g (W/Kg)	0.060151
SAR 1g (W/Kg)	0.084842



System Performance Check (Body, 750MHz)

Type: Phone measurement

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

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

Date of measurement: 02/12/2019

Measurement duration: 22 minutes 26 seconds

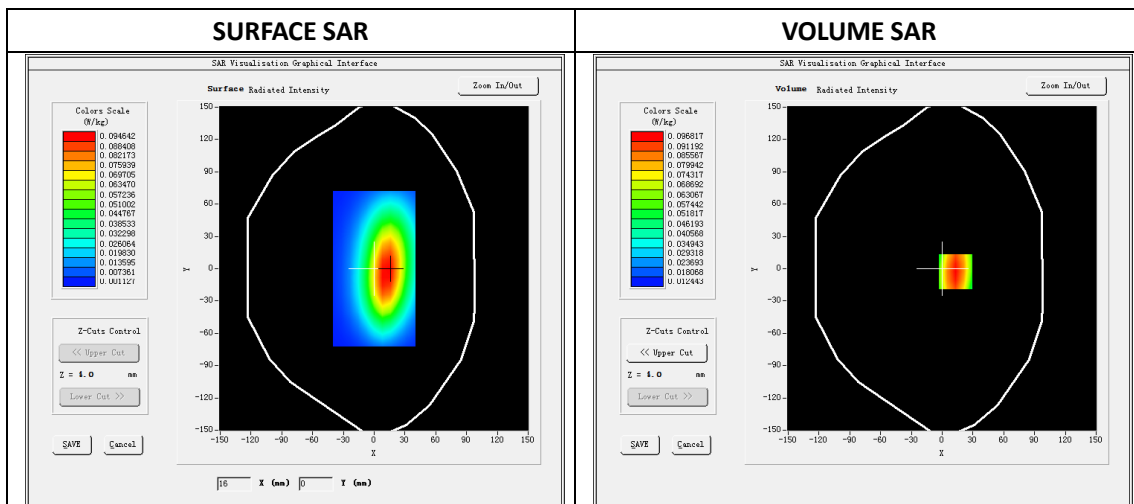
A. Experimental conditions.

Phantom File	dx=8mm dy=8mm
Phantom	5x5x7,dx=8mm dy=8mm dz=5mm
Device Position	Dipole
Band	750MHz
Channels	
Signal	CW

B. SAR Measurement Results

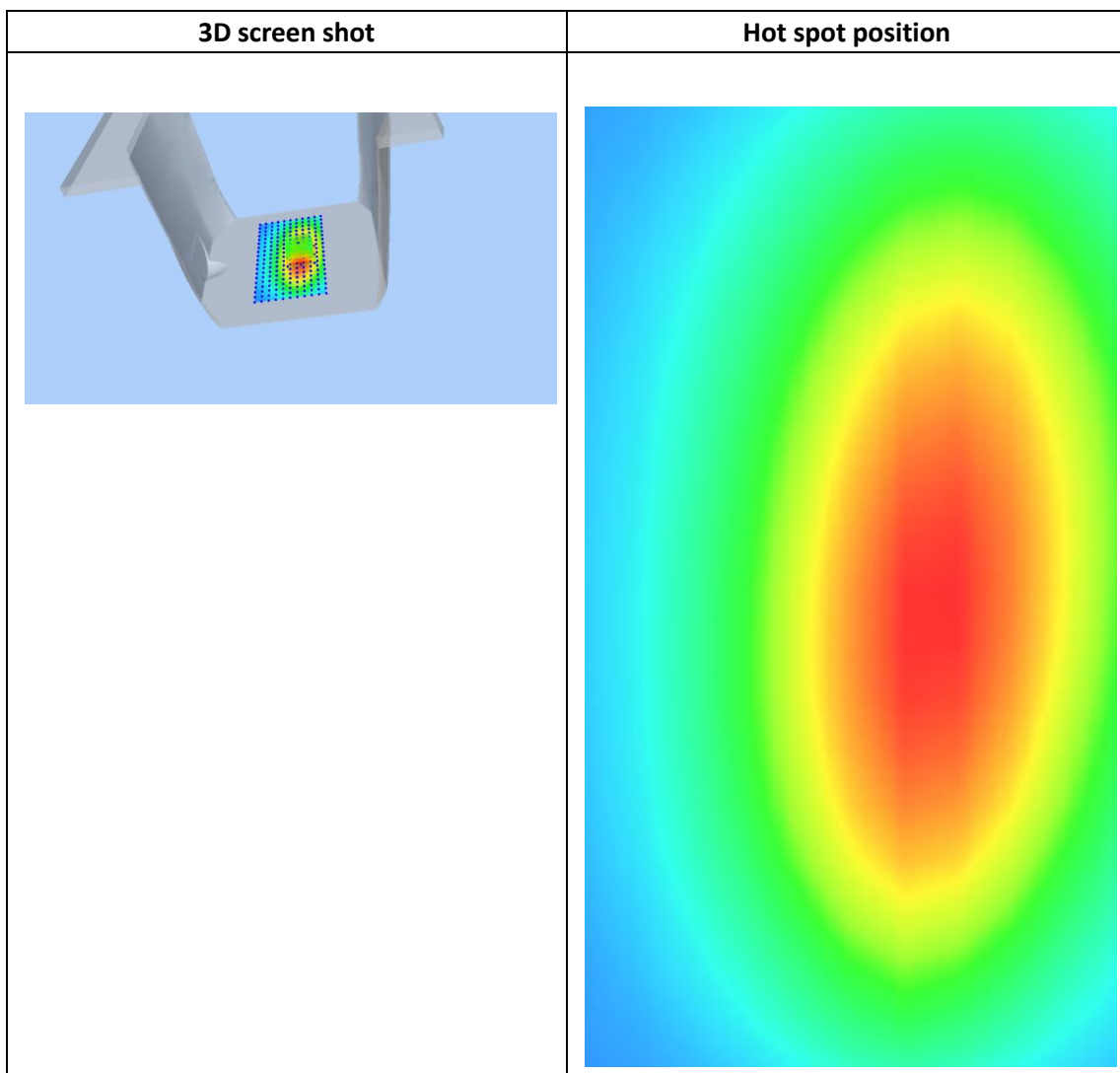
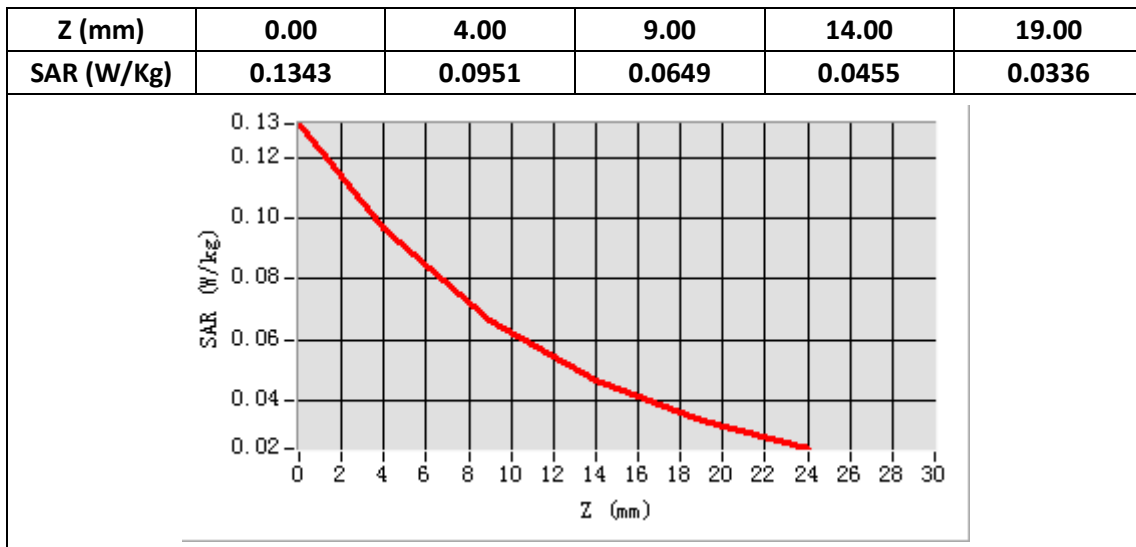
Band SAR

E-Field Probe	SATIMO SN_04/13_EP166
Frequency (MHz)	750
Relative permittivity (real part)	55.43
Relative permittivity	22.15
Conductivity (S/m)	0.95
Power drift (%)	-1.74
Ambient Temperature:	22.2°C
Liquid Temperature:	22.6°C
ConvF:	5.95
Crest factor:	1:1



Maximum location: X=13.00, Y=-3.00

SAR 10g (W/Kg)	0.061123
SAR 1g (W/Kg)	0.0814858



System Performance Check (Head, 850MHz)

Type: Phone measurement

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

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

Date of measurement: 01/30/2019

Measurement duration: 22 minutes 12 seconds

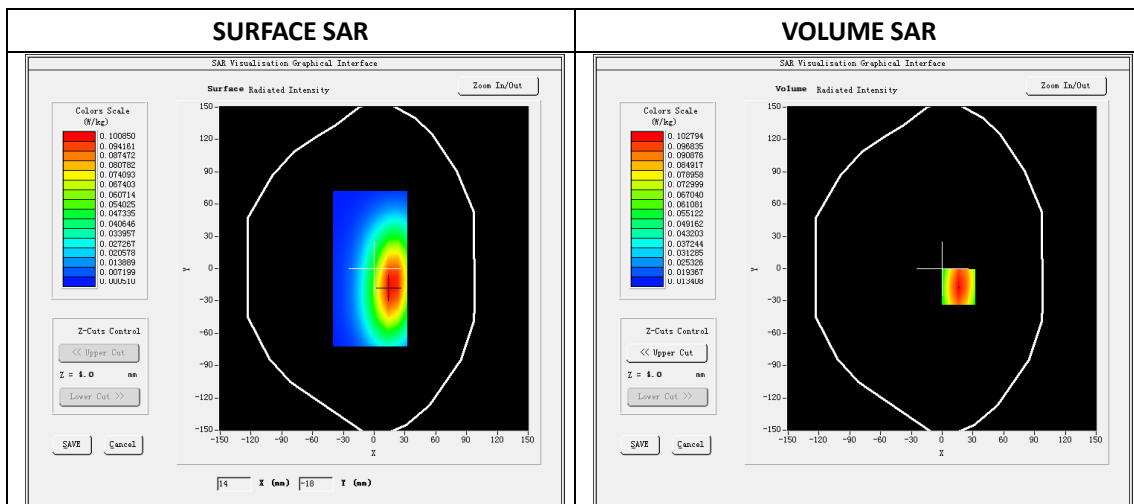
A. Experimental conditions.

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

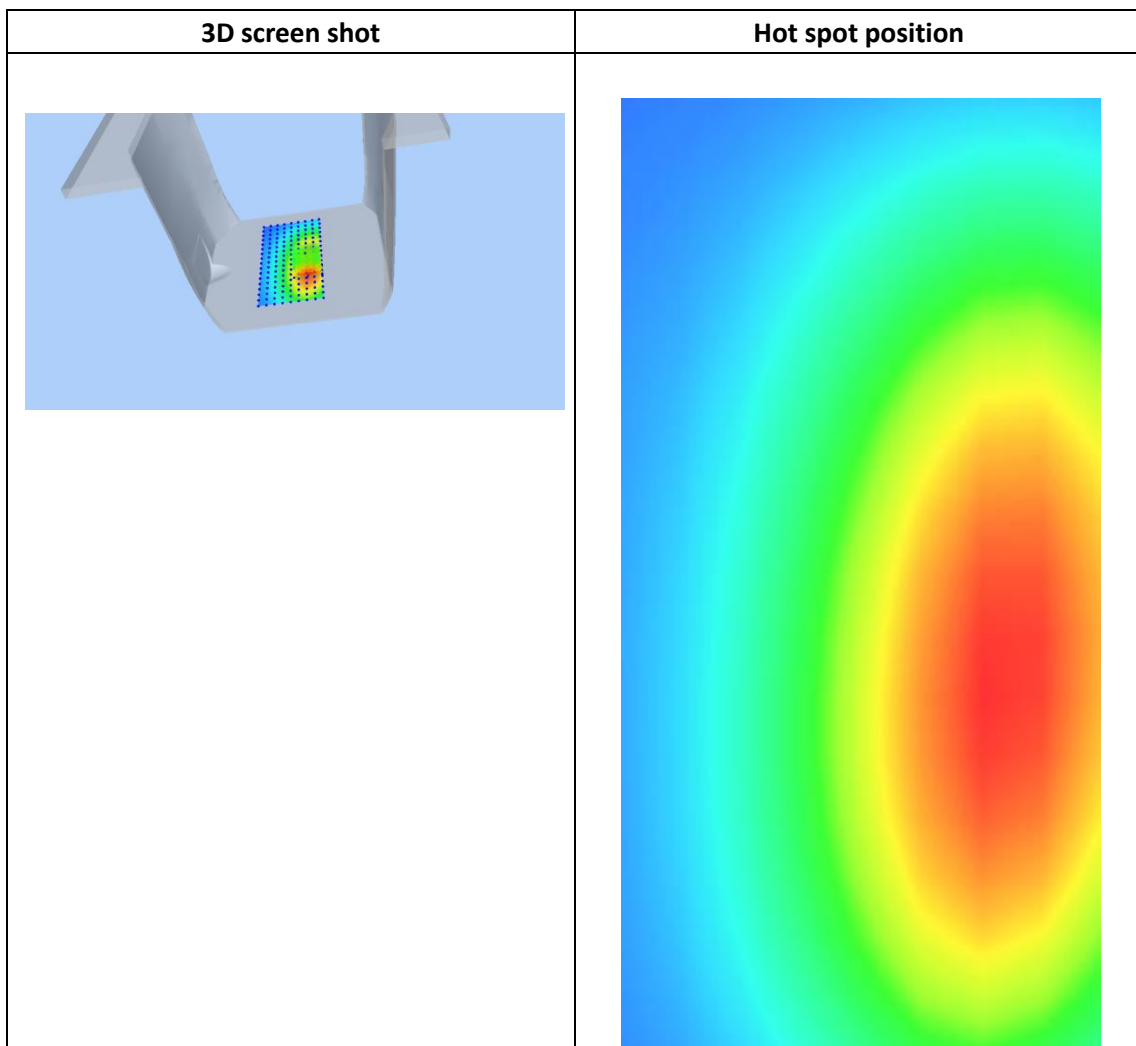
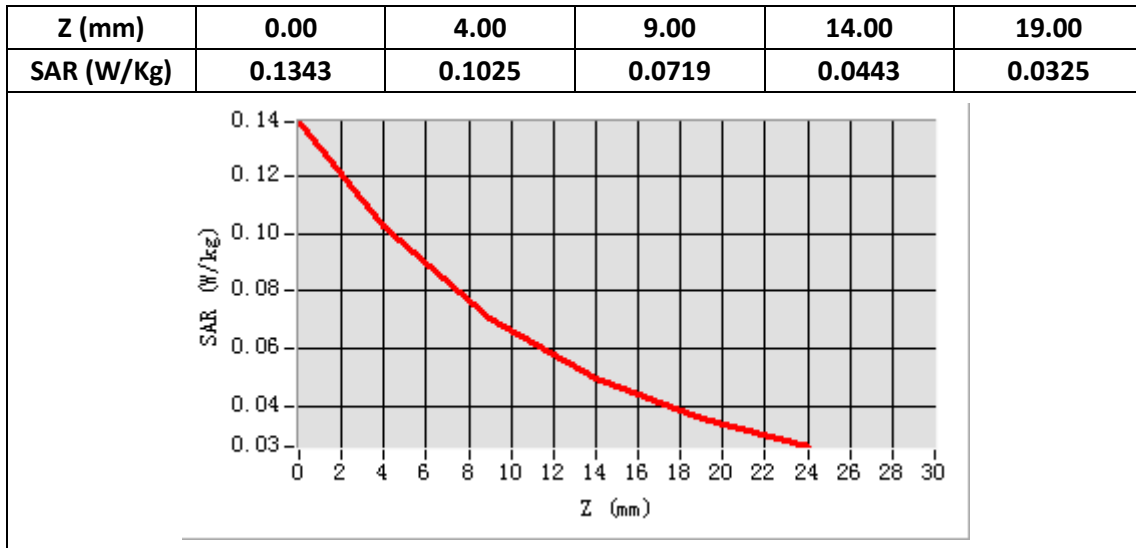
Band SAR

E-Field Probe	SATIMO SN_04/13_EP166
Frequency (MHz)	850
Relative permittivity (real part)	41.46
Relative permittivity	18.88
Conductivity (S/m)	0.91
Power drift (%)	1.41
Ambient Temperature:	22.2°C
Liquid Temperature:	22.6°C
ConvF:	5.85
Crest factor:	1:1



Maximum location: X=16.00, Y=-17.00

SAR 10g (W/Kg)	0.064745
SAR 1g (W/Kg)	0.095841



System Performance Check (Body, 850MHz)

Type: Phone measurement

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

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

Date of measurement: 01/30/2019

Measurement duration: 22 minutes 15 seconds

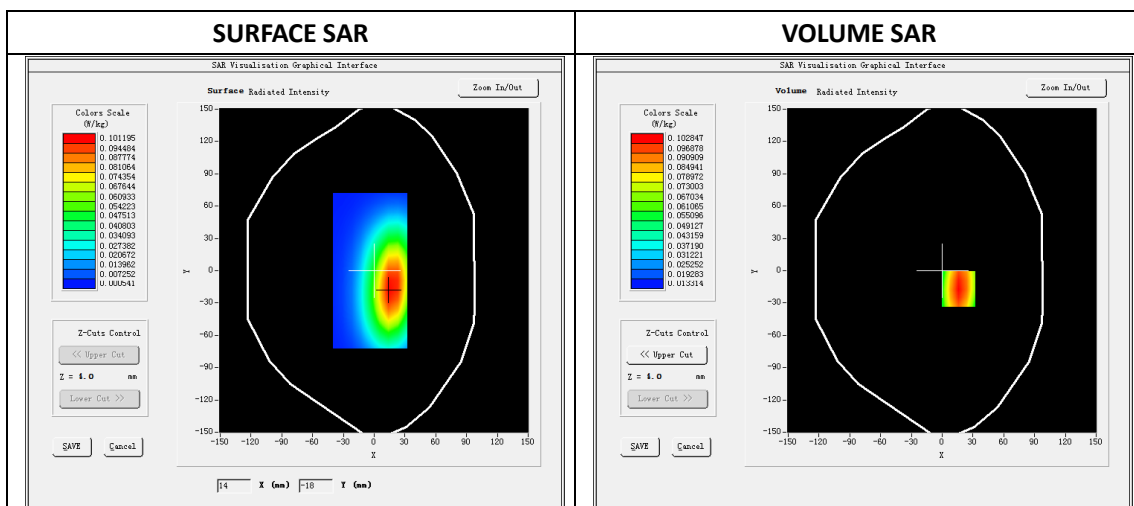
A. Experimental conditions.

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

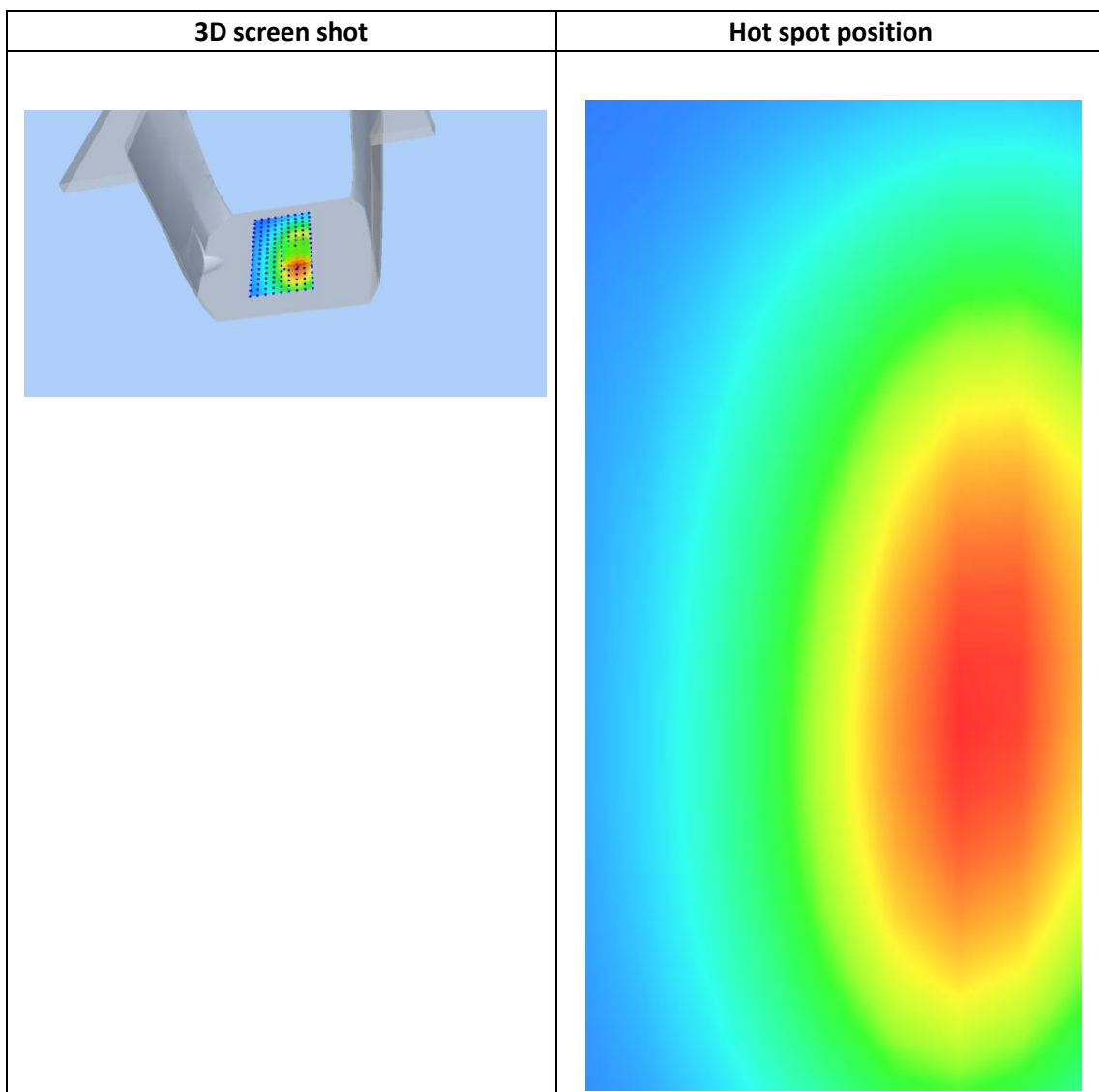
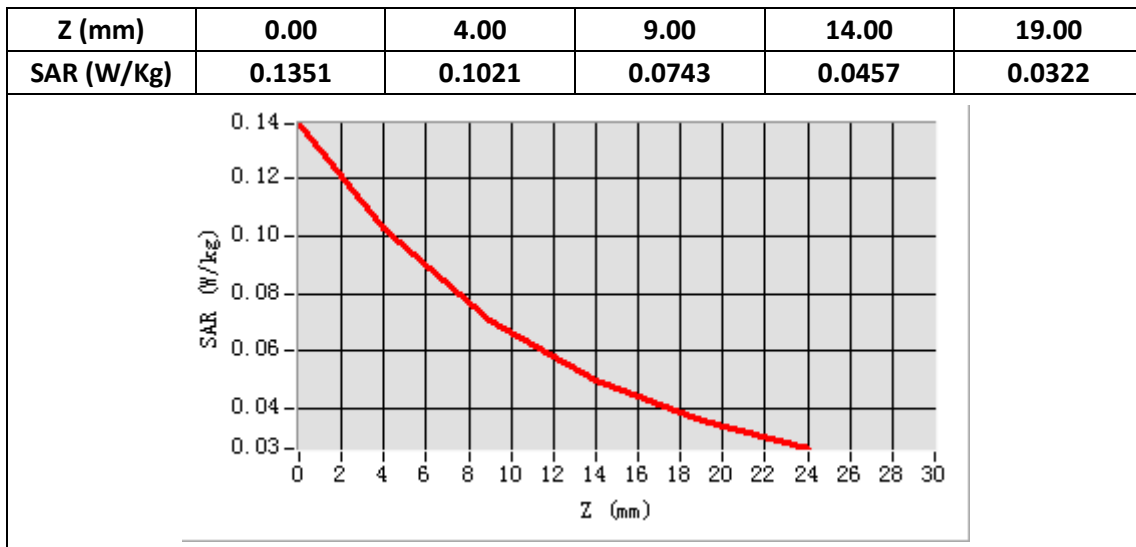
Band SAR

E-Field Probe	SATIMO SN_04/13_EP166
Frequency (MHz)	850
Relative permittivity (real part)	55.22
Relative permittivity	20.15
Conductivity (S/m)	0.94
Power drift (%)	2.11
Ambient Temperature:	22.2°C
Liquid Temperature:	22.6°C
ConvF:	6.17
Crest factor:	1:1



Maximum location: X=16.00, Y=-17.00

SAR 10g (W/Kg)	0.066451
SAR 1g (W/Kg)	0.099943



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: 01/31/2019

Measurement duration: 22 minutes 21 seconds

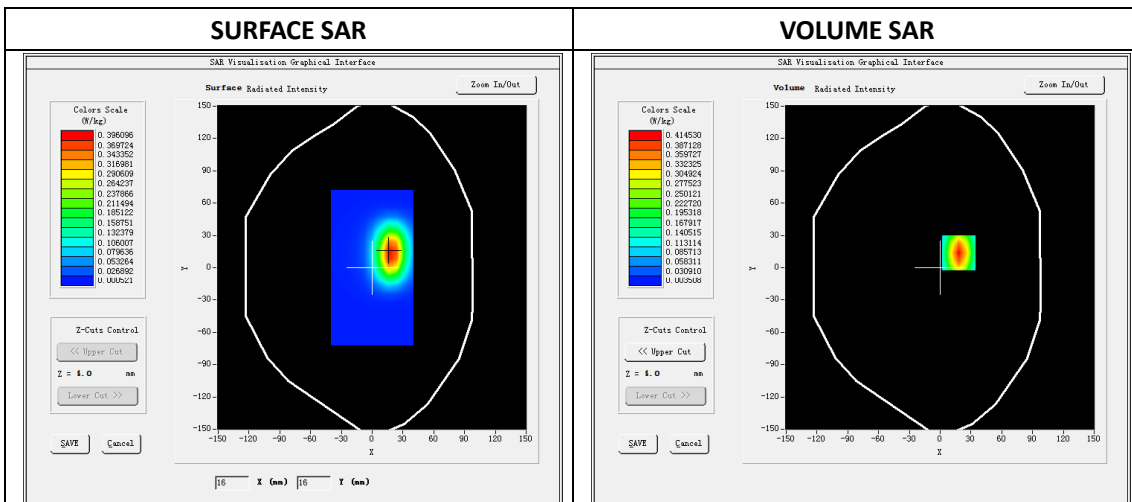
A. Experimental conditions.

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

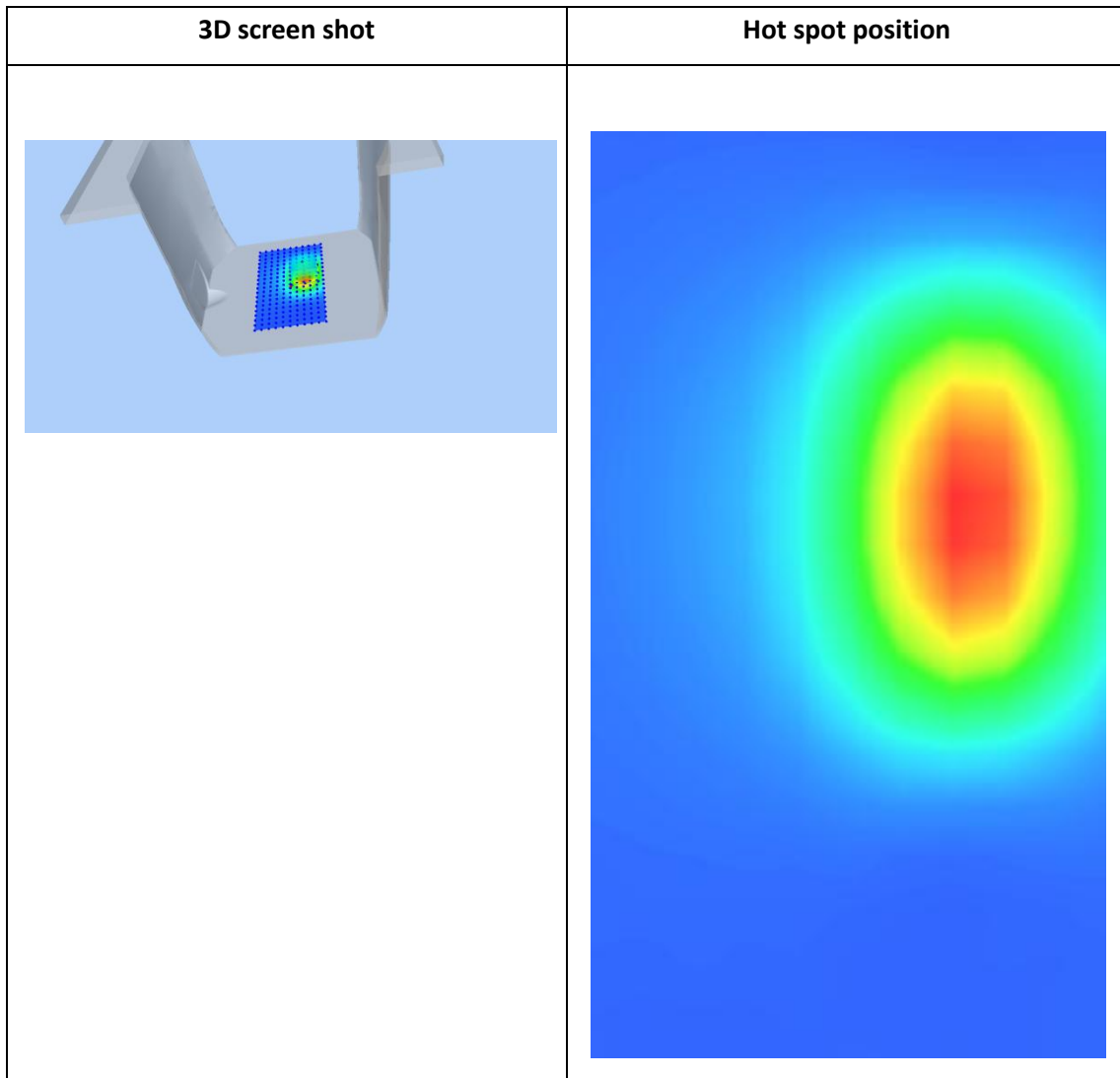
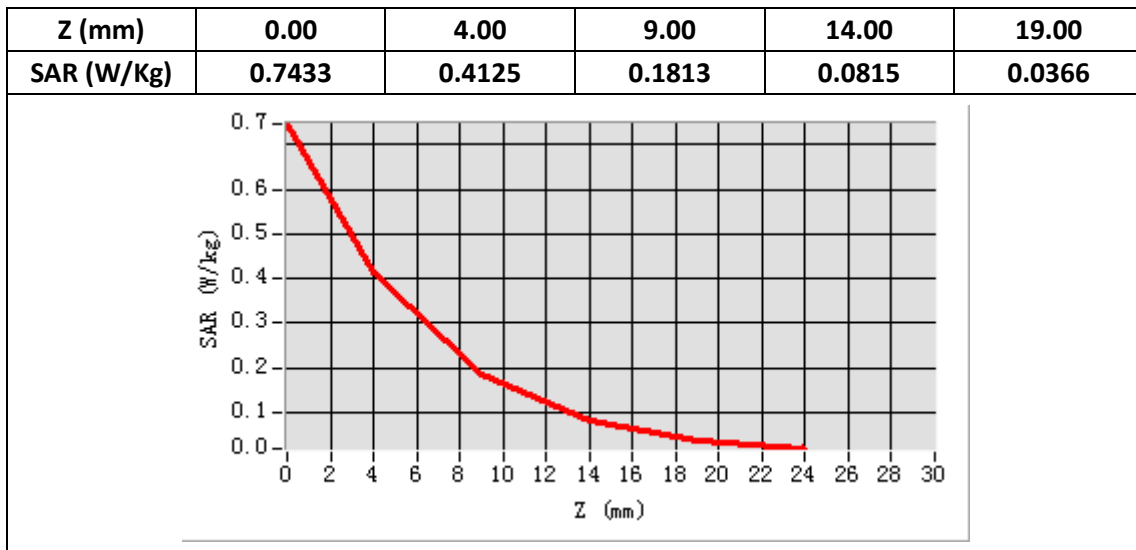
Band SAR

E-Field Probe	SATIMO SN_04/13_EP166
Frequency (MHz)	1800
Relative permittivity (real part)	40.44
Relative permittivity	14.15
Conductivity (S/m)	1.40
Power Drift (%)	-0.23
Ambient Temperature:	22.1°C
Liquid Temperature:	22.6°C
ConvF:	5.43
Duty factor:	1:1



Maximum location: X=18.00, Y=14.00

SAR 10g (W/Kg)	0.184215
SAR 1g (W/Kg)	0.371531



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: 01/31/2019

Measurement duration: 22 minutes 42 seconds

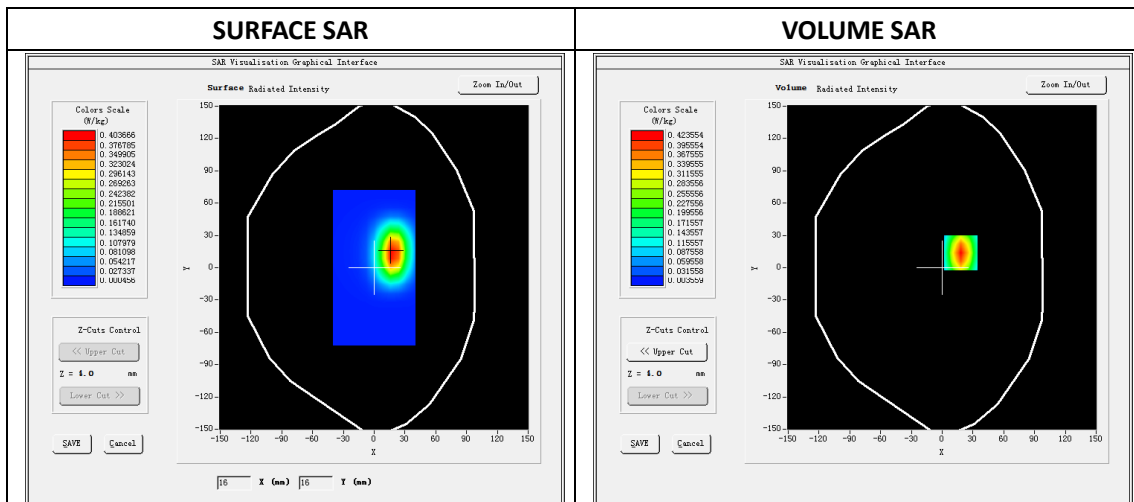
A. Experimental conditions.

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

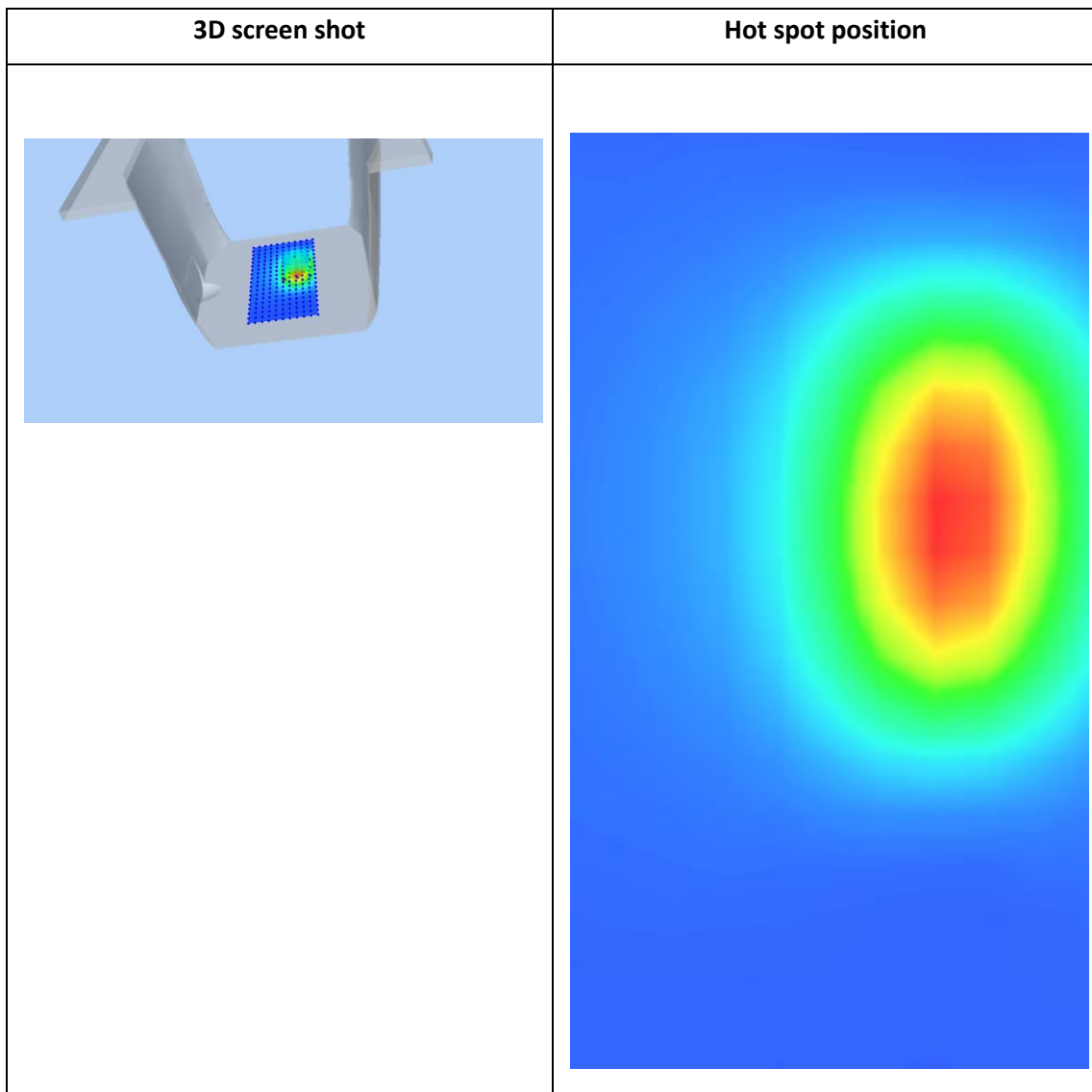
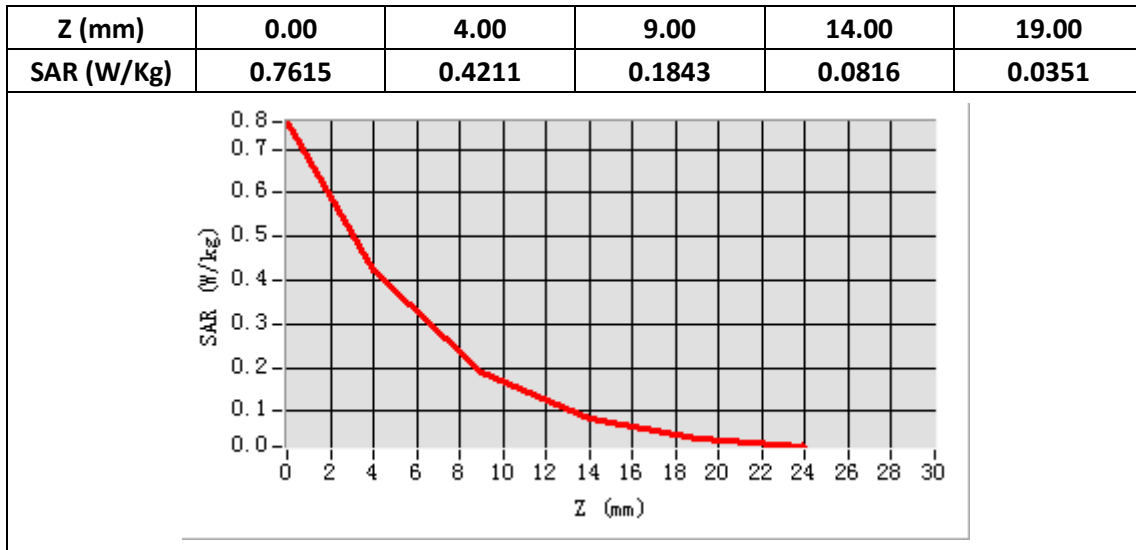
Band SAR

E-Field Probe	SATIMO SN_04/13_EP166
Frequency (MHz)	1800
Relative permittivity (real part)	53.31
Relative permittivity	15.21
Conductivity (S/m)	1.51
Power Drift (%)	2.33
Ambient Temperature:	22.1°C
Liquid Temperature:	22.6°C
ConvF:	5.60
Duty factor:	1:1



Maximum location: X=18.00, Y=14.00

SAR 10g (W/Kg)	0.168474
SAR 1g (W/Kg)	0.376645



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: 02/01/2019

Measurement duration: 22 minutes 35 seconds

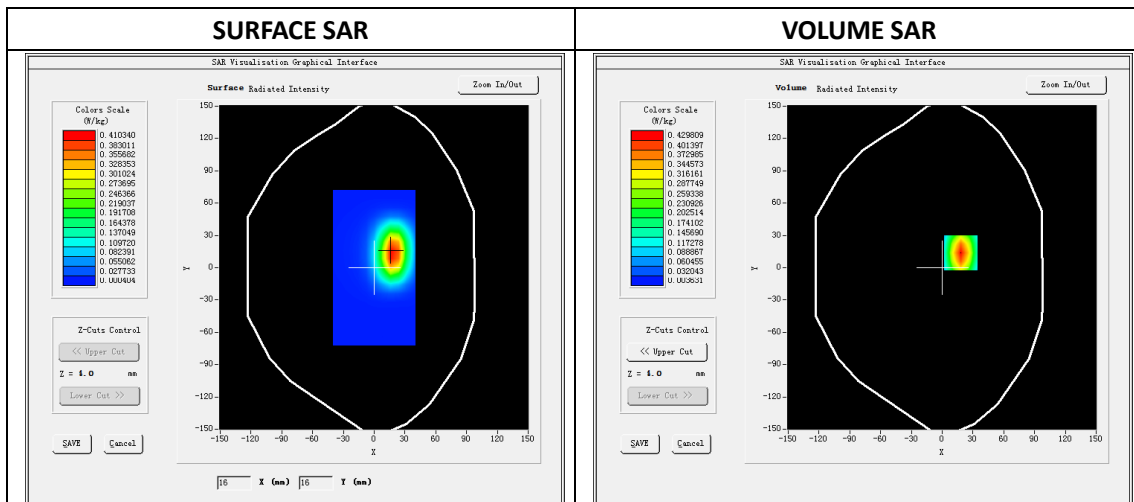
A. Experimental conditions.

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

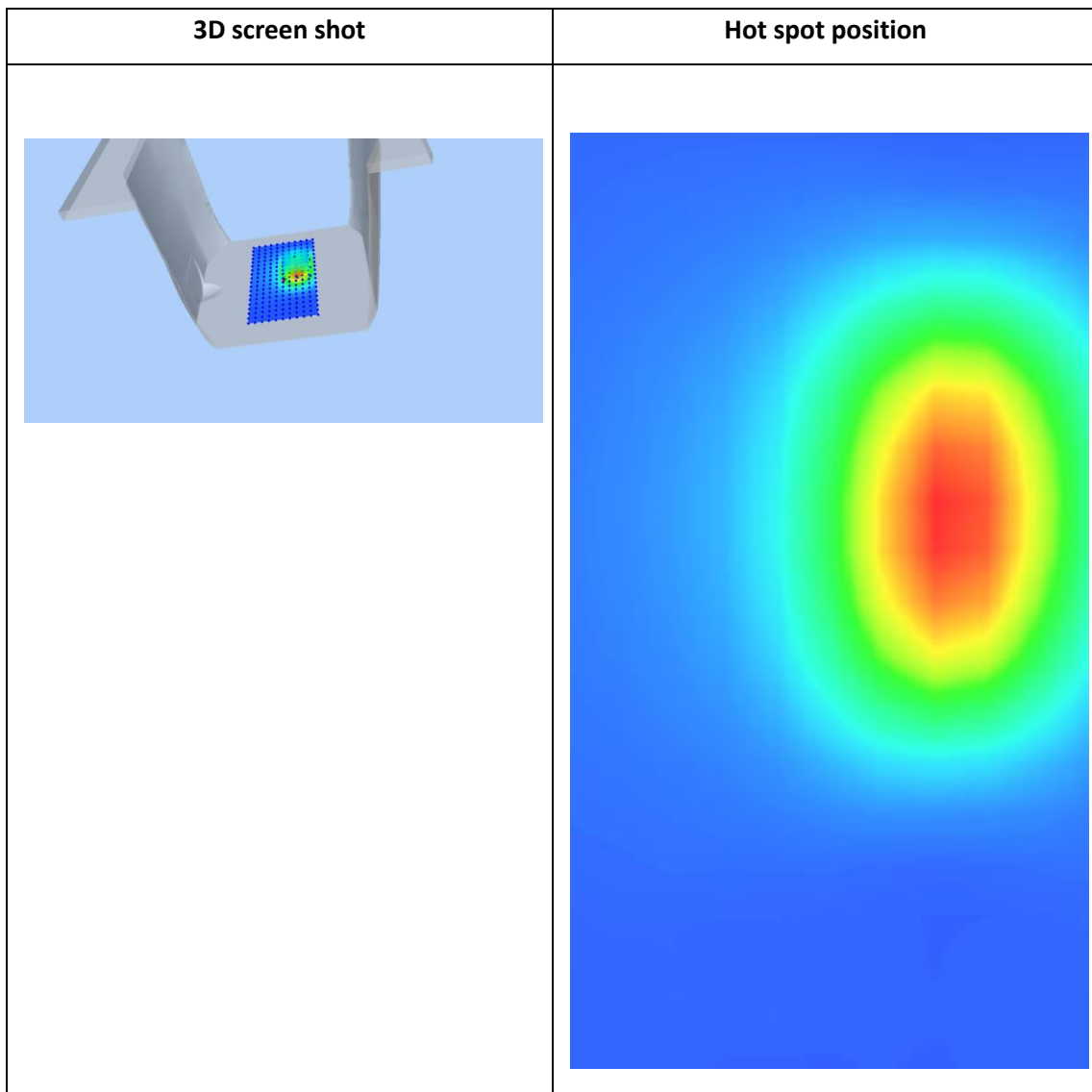
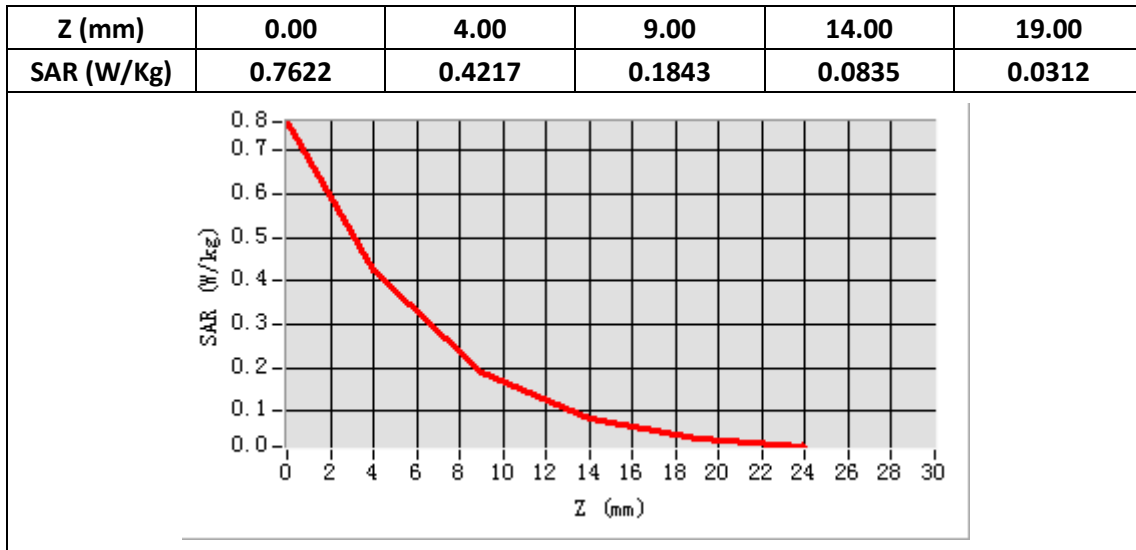
Band SAR

E-Field Probe	SATIMO SN_04/13_EP166
Frequency (MHz)	1900
Relative permittivity (real part)	40.58
Relative permittivity	13.35
Conductivity (S/m)	1.42
Power Drift (%)	0.25
Ambient Temperature:	22.1°C
Liquid Temperature:	22.6°C
ConvF:	5.90
Duty factor:	1:1



Maximum location: X=18.00, Y=14.00

SAR 10g (W/Kg)	0.183145
SAR 1g (W/Kg)	0.393214



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: 02/01/2019

Measurement duration: 22 minutes 21 seconds

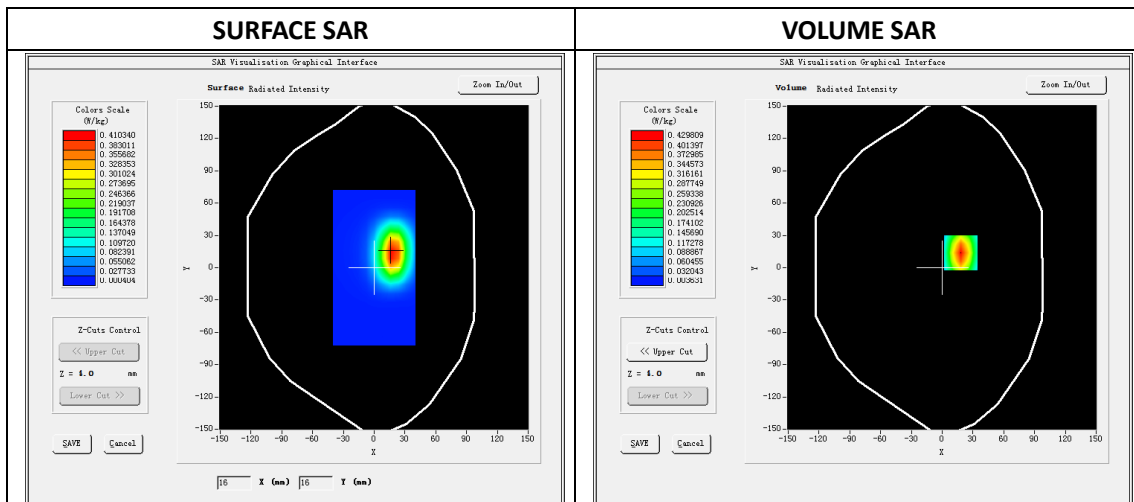
A. Experimental conditions.

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

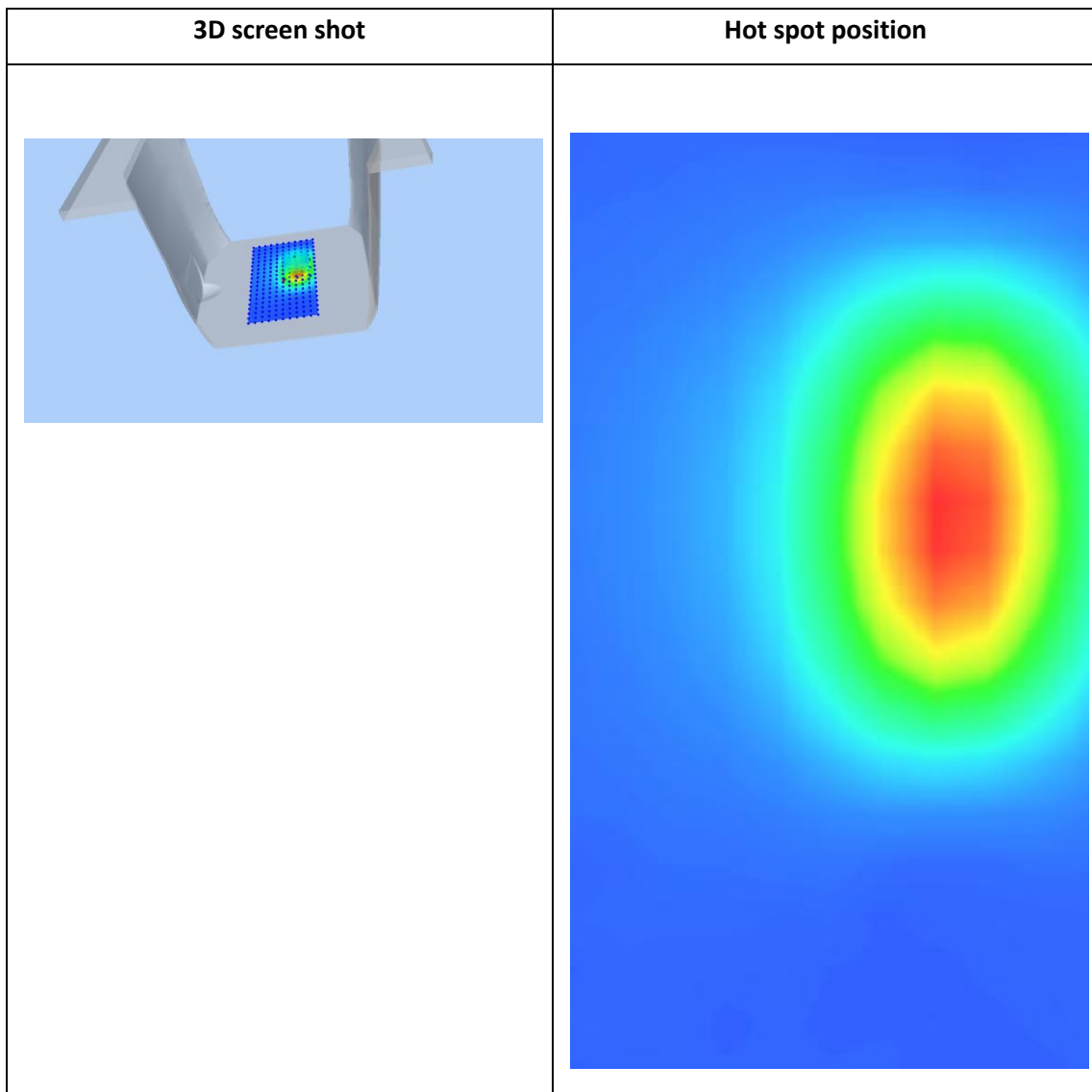
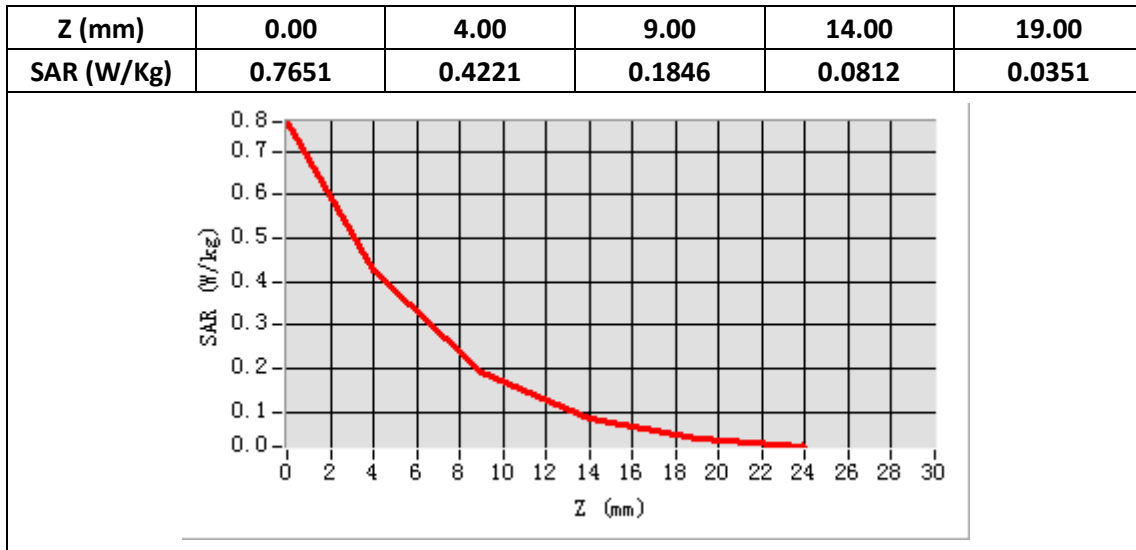
Band SAR

E-Field Probe	SATIMO SN_04/13_EP166
Frequency (MHz)	1900
Relative permittivity (real part)	53.35
Relative permittivity	14.21
Conductivity (S/m)	1.50
Power Drift (%)	-0.11
Ambient Temperature:	22.1°C
Liquid Temperature:	22.6°C
ConvF:	6.10
Duty factor:	1:1



Maximum location: X=18.00, Y=14.00

SAR 10g (W/Kg)	0.185461
SAR 1g (W/Kg)	0.384514



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: 02/02/2019

Measurement duration: 22 minutes 46 seconds

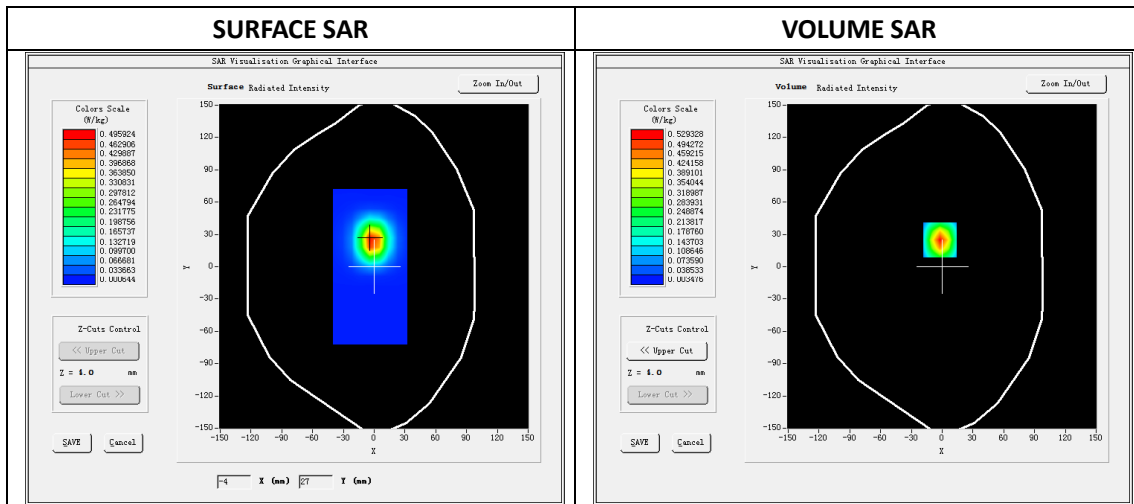
A. Experimental conditions.

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

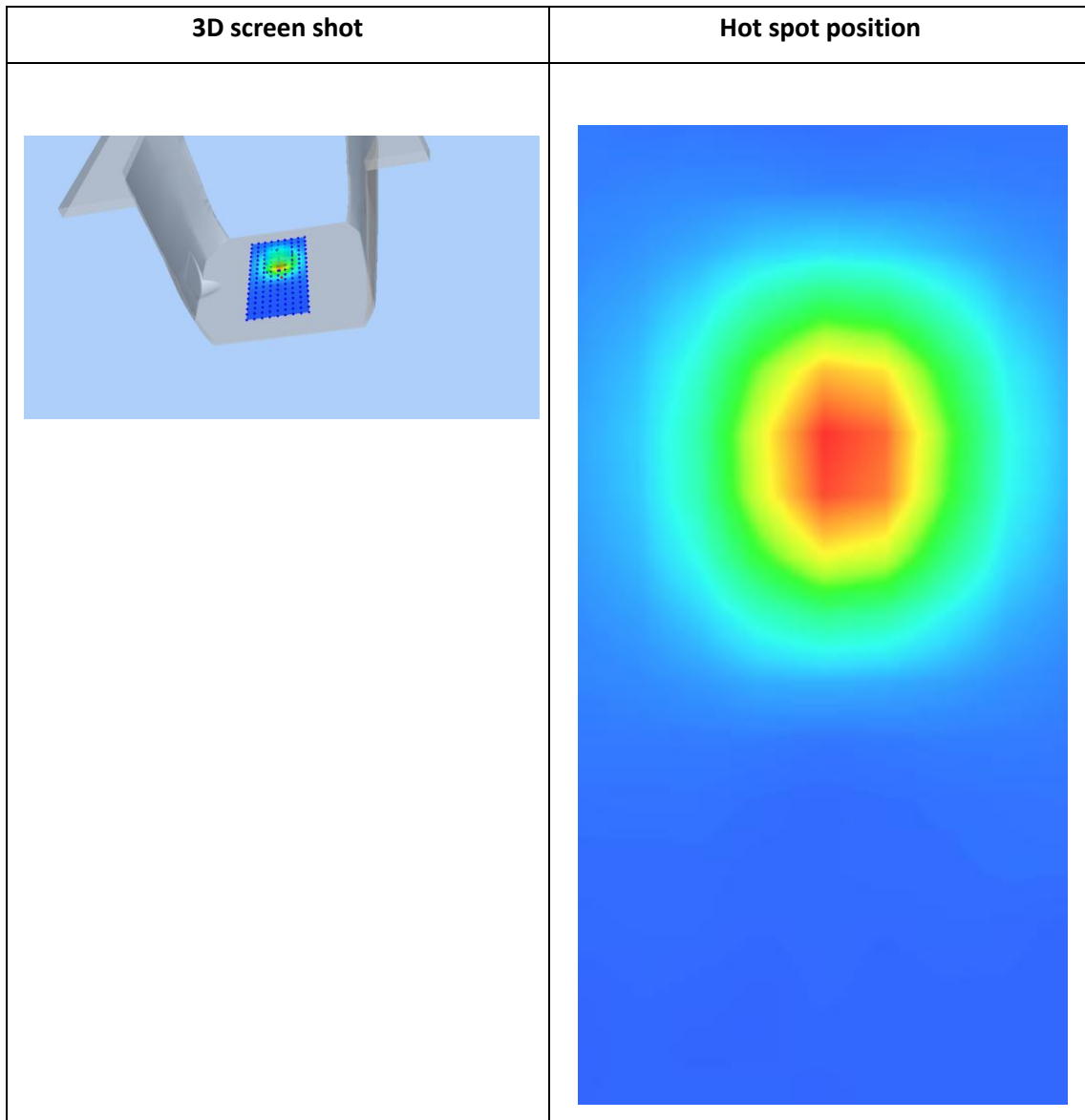
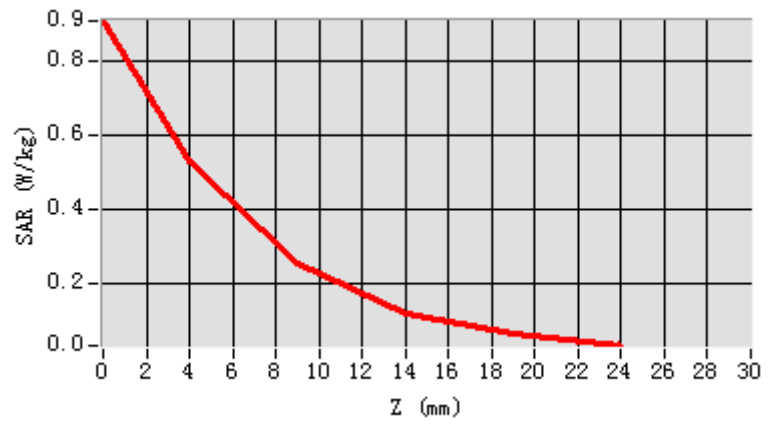
E-Field Probe	SATIMO SN_04/13_EP166
Frequency (MHz)	2450
Relative permittivity (real part)	39.23
Relative permittivity	13.65
Conductivity (S/m)	1.81
Power Drift (%)	-0.15
Duty factor:	1:1
ConvF:	5.35



Maximum location: X=-2.00, Y=25.00

SAR 10g (W/Kg)	0.222346
SAR 1g (W/Kg)	0.521715

Z (mm)	0.00	4.00	9.00	14.00	19.00
SAR (W/Kg)	0.9115	0.5242	0.2543	0.1231	0.0622



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: 02/02/2019

Measurement duration: 22 minutes 16 seconds

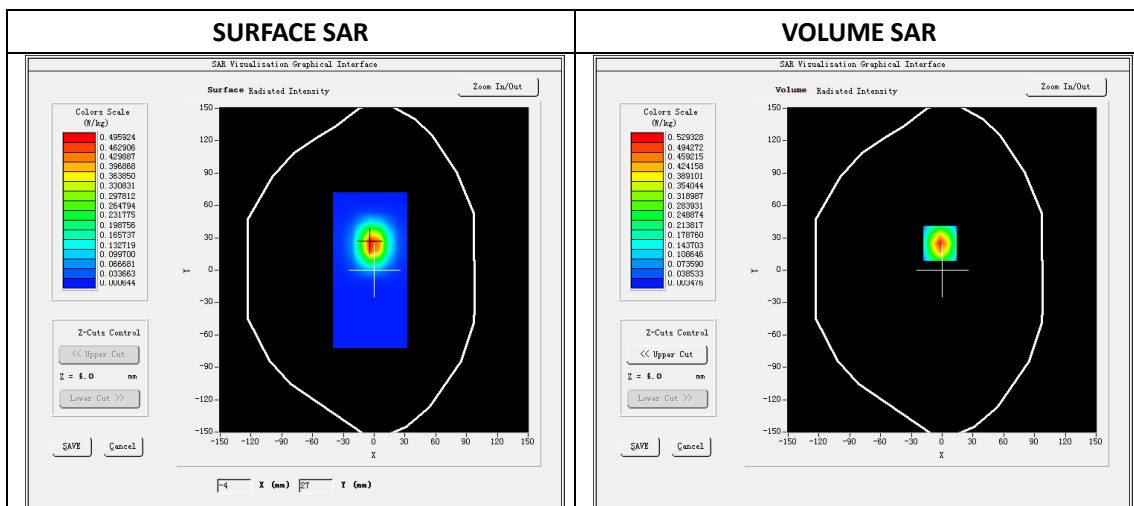
A. Experimental conditions.

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

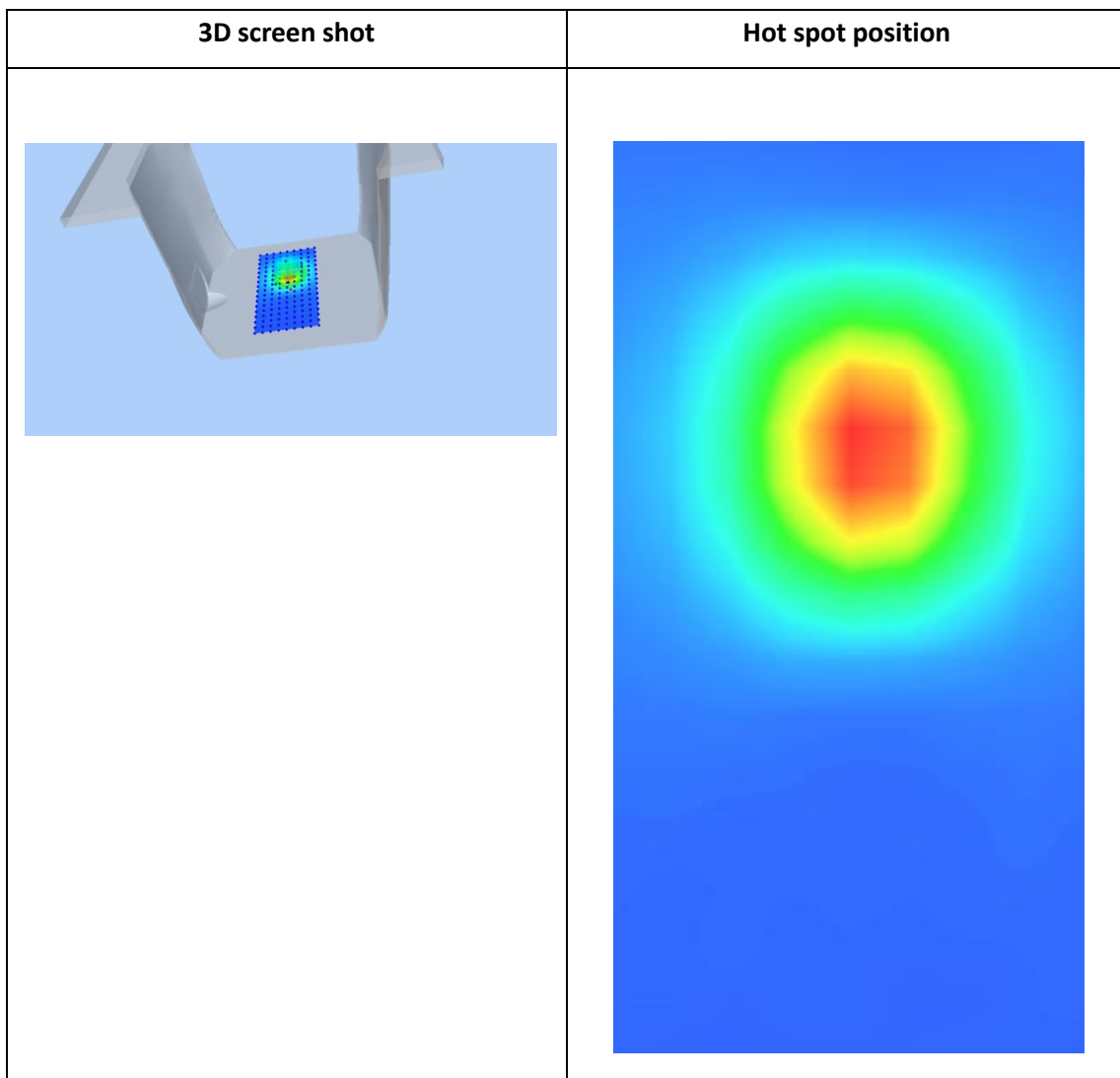
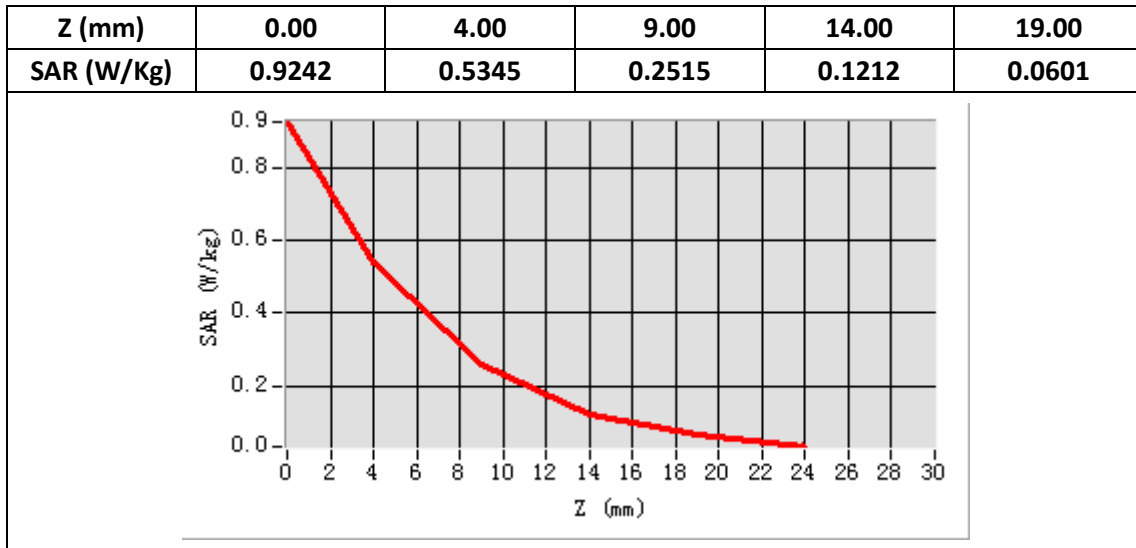
Band SAR

E-Field Probe	SATIMO SN_04/13_EP166
Frequency (MHz)	2450
Relative permittivity (real part)	52.73
Relative permittivity	14.15
Conductivity (S/m)	1.92
Power Drift (%)	-1.12
Duty factor:	1:1
ConvF:	5.56



Maximum location: X=-2.00, Y=25.00

SAR 10g (W/Kg)	0.210214
SAR 1g (W/Kg)	0.512145



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: 02/11/2019

Measurement duration: 22 minutes 35 seconds

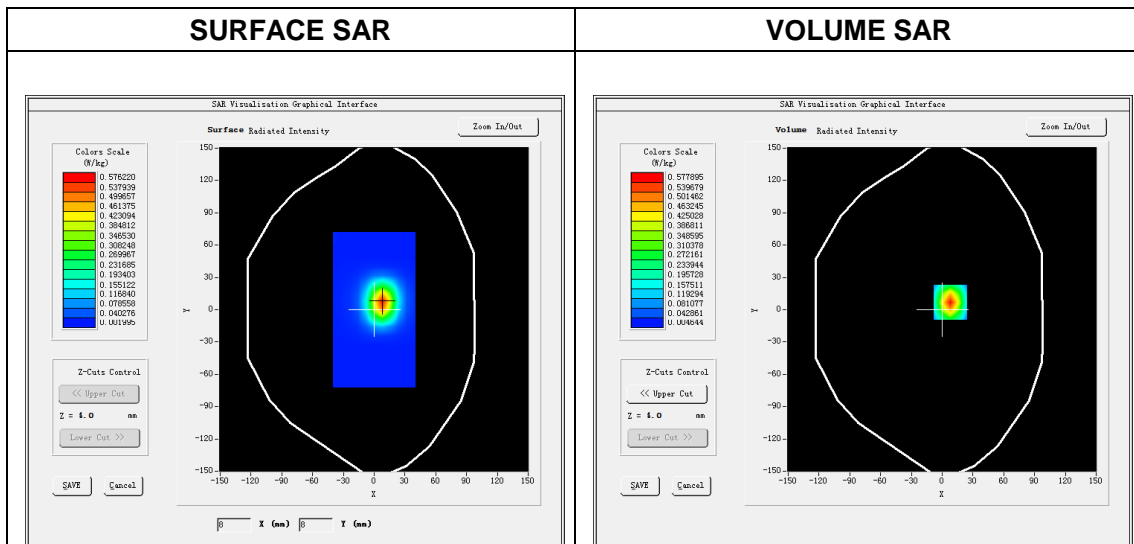
A. Experimental conditions.

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

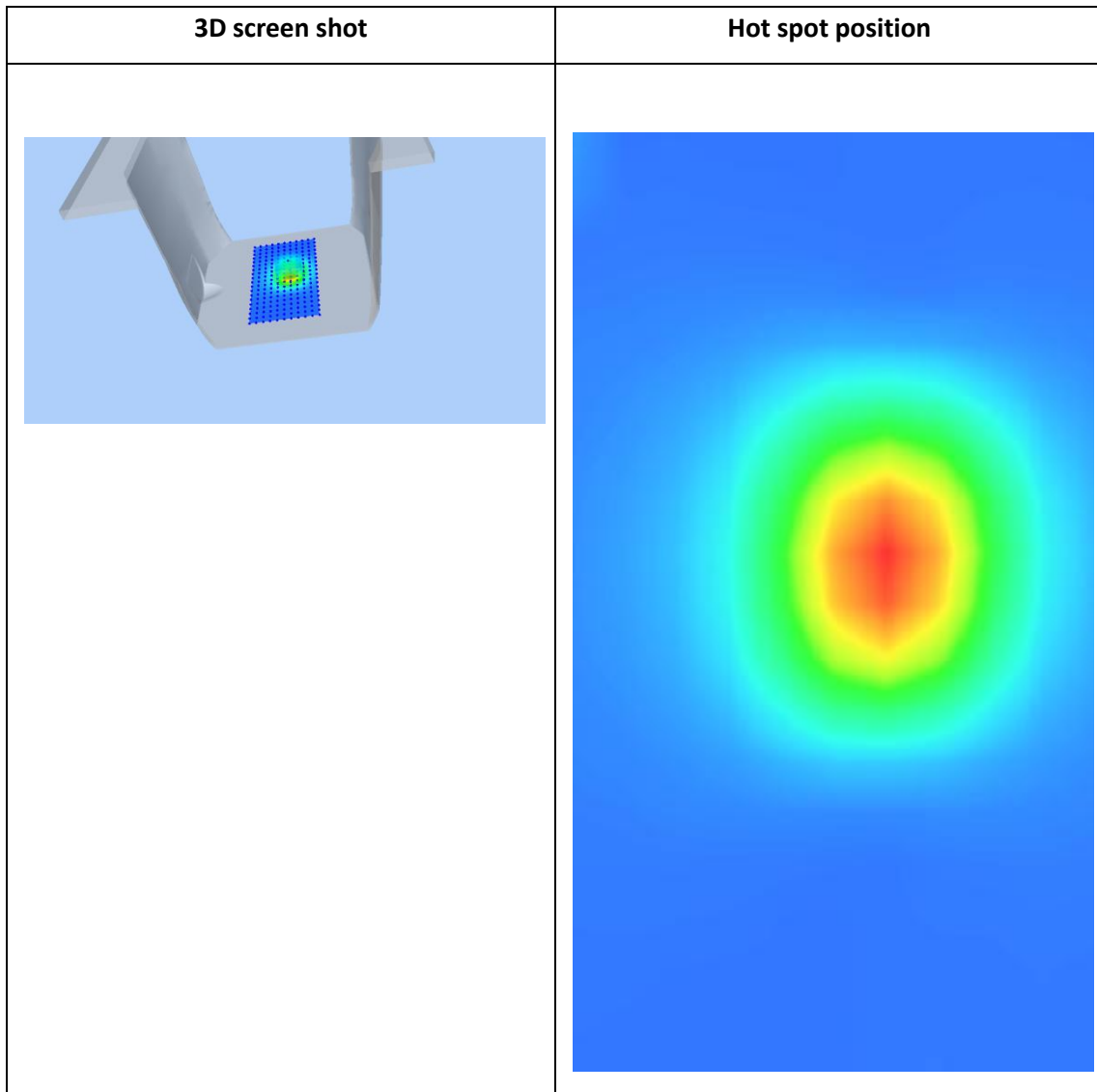
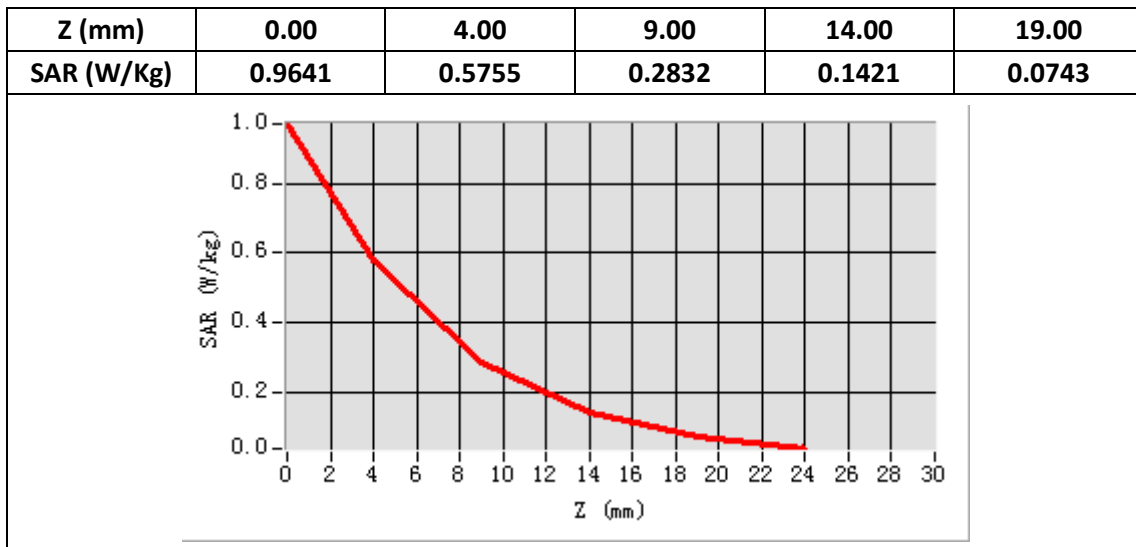
Band SAR

E-Field Probe	SATIMO SN_04/13_EP166
Frequency (MHz)	2600
Relative permittivity (real part)	39.15
Relative permittivity	13.25
Conductivity (S/m)	1.96
Power drift (%)	1.36
Ambient Temperature:	22.2°C
Liquid Temperature:	22.5°C
Crest factor:	1:1
ConvF:	5.25



Maximum location: X=8.00, Y=7.00

SAR 10g (W/Kg)	0.251467
SAR 1g (W/Kg)	0.561345



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: 02/11/2019

Measurement duration: 22 minutes 21 seconds

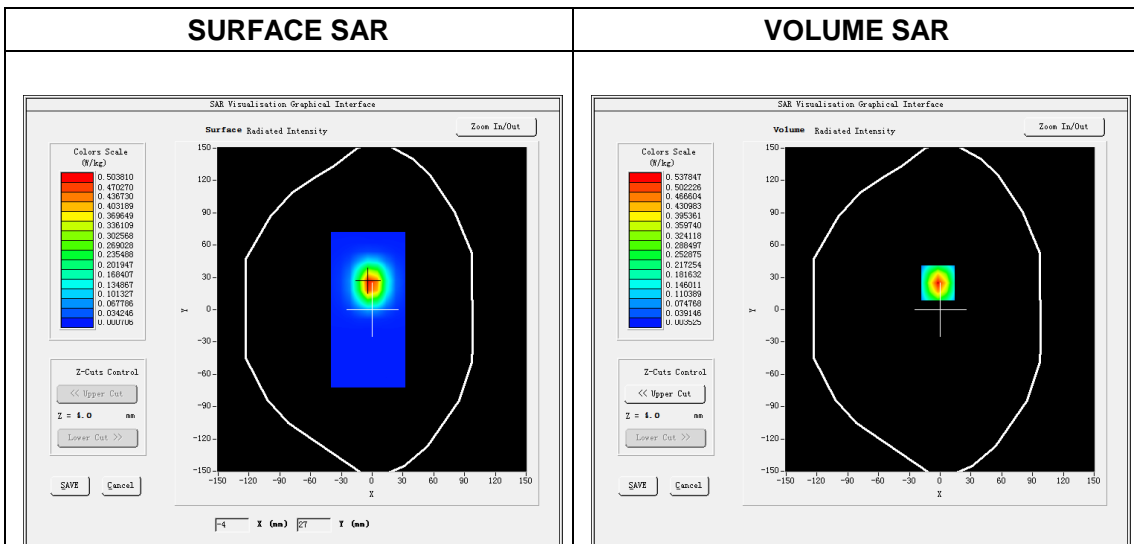
A. Experimental conditions.

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

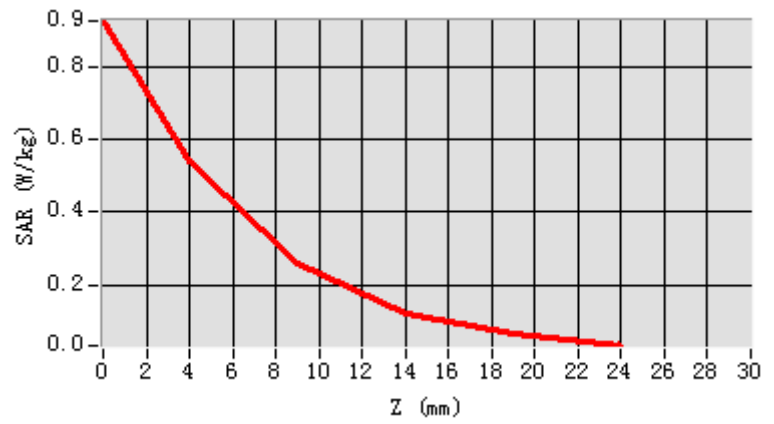
E-Field Probe	SATIMO SN_04/13_EP166
Frequency (MHz)	2600
Relative permittivity (real part)	52.51
Relative permittivity	14.75
Conductivity (S/m)	2.14
Power drift (%)	-0.64
Ambient Temperature:	22.2°C
Liquid Temperature:	22.5°C
Crest factor:	1:1
ConvF:	5.28



Maximum location: X=-2.00, Y=25.00

SAR 10g (W/Kg)	0.243748
SAR 1g (W/Kg)	0.534214

Z (mm)	0.00	4.00	9.00	14.00	19.00
SAR (W/Kg)	0.9215	0.5343	0.2525	0.1202	0.0611



3D screen shot	Hot spot position
