

Appendix A: SAR System performance Check Plots

Measurement	Liquid	Frequency	Test Date
System Check	Head	750	2020-02-19
System Check	Body	750	2020-02-19
System Check	Head	835	2020-02-20
System Check	Body	835	2020-02-20
System Check	Head	1800	2020-02-21
System Check	Body	1800	2020-02-21
System Check	Head	1900	2020-02-22
System Check	Body	1900	2020-02-22
System Check	Head	2450	2020-02-24
System Check	Body	2450	2020-02-24
System Check	Head	2600	2020-02-25
System Check	Body	2600	2020-02-25
System Check	Head	5200	2020-02-26
System Check	Body	5200	2020-02-26
System Check	Head	5800	2020-02-27
System Check	Body	5800	2020-02-27

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: 02/19/2020

Measurement duration: 22 minutes 03 seconds

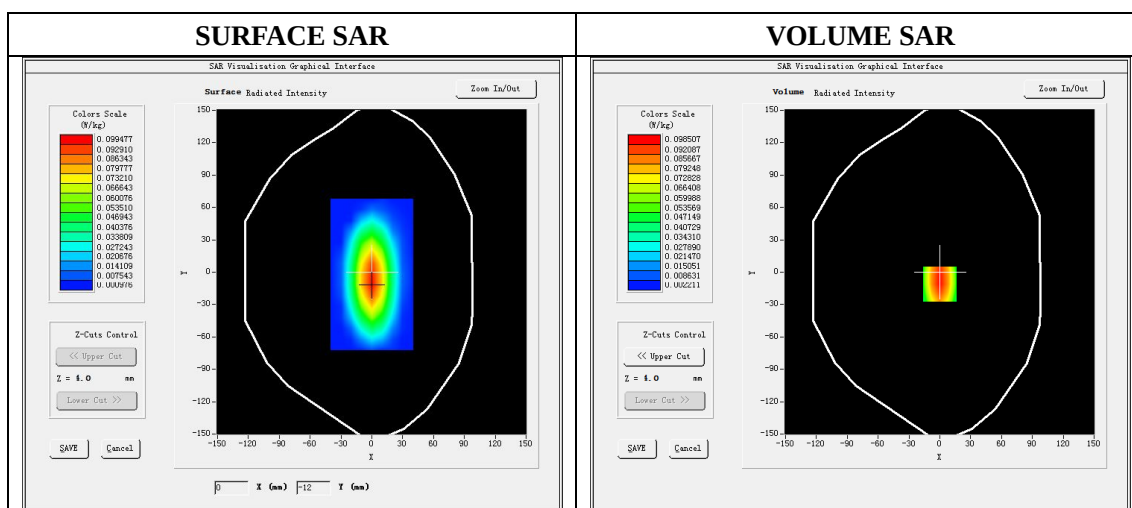
A. Experimental conditions.

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

B. SAR Measurement Results

Band SAR

E-Field Probe	SATIMO SN_27/15_EPG0261
Frequency (MHz)	750
Relative permittivity (real part)	41.88
Relative permittivity	22.56
Conductivity (S/m)	0.94
Power drift (%)	-0.35
Ambient Temperature:	22.2°C
Liquid Temperature:	22.6°C
ConvF:	1.87
Crest factor:	1:1

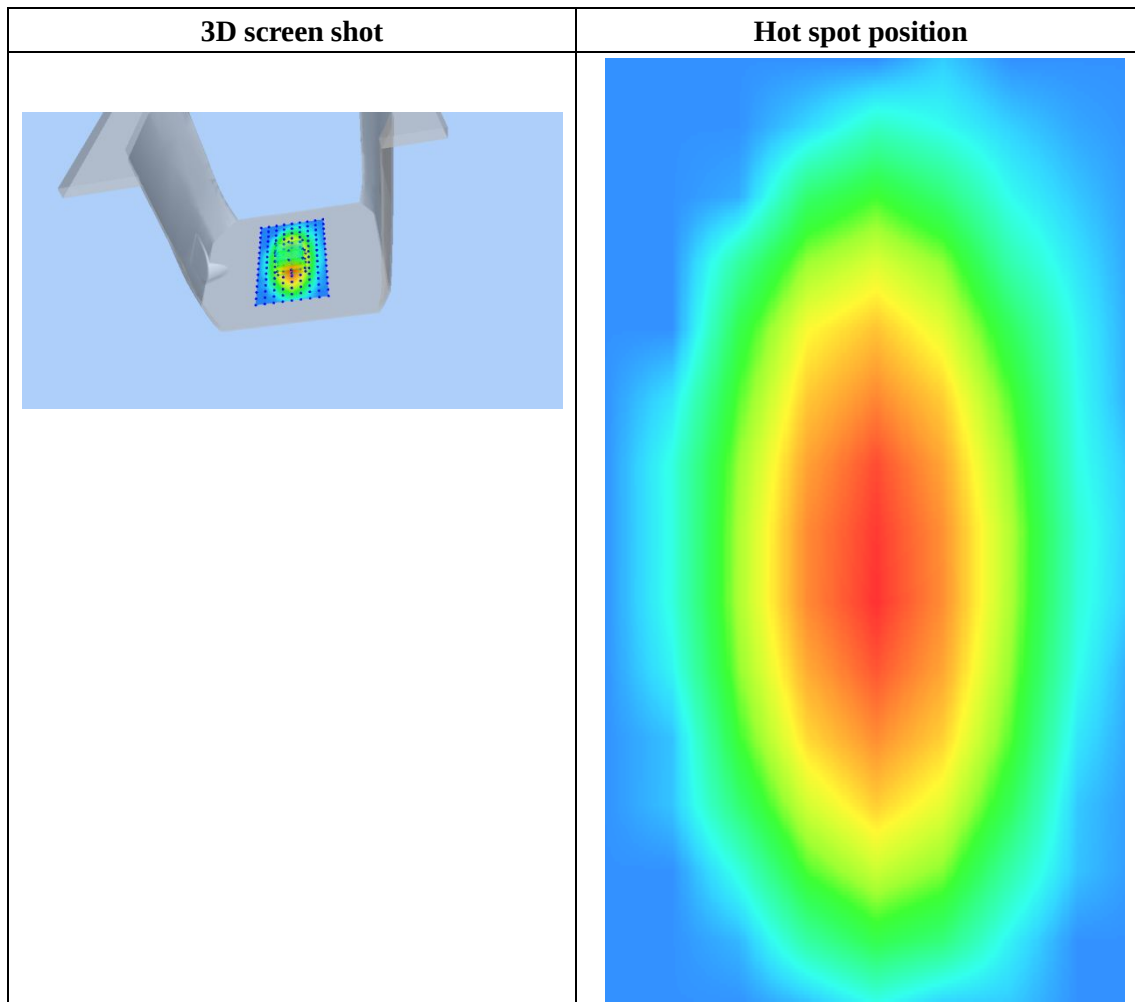
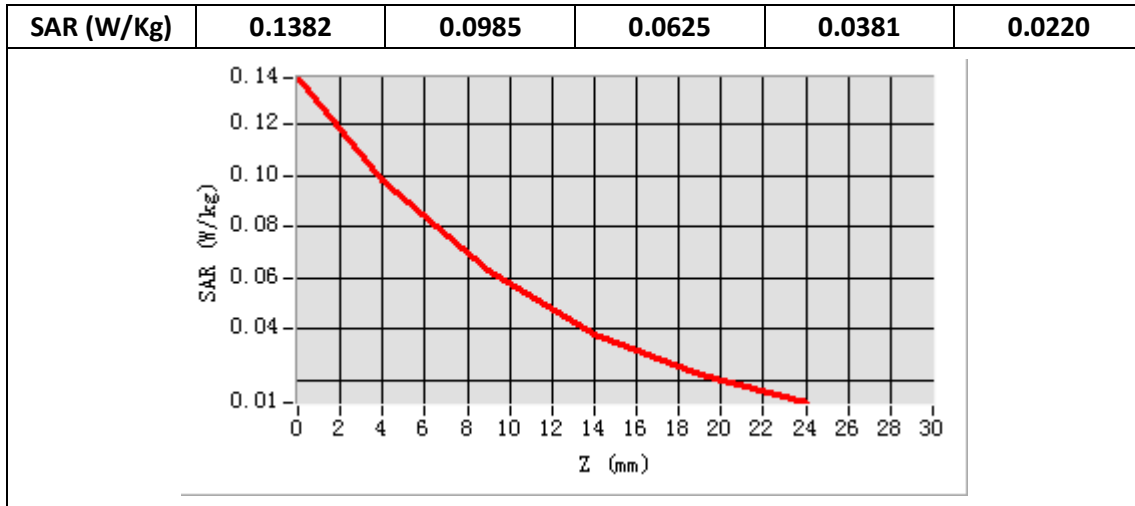


Maximum location: X=0.00, Y=-11.00

SAR Peak: 0.14 W/kg

SAR 10g (W/Kg)	0.055651
SAR 1g (W/Kg)	0.093661

Z (mm)	0.00	4.00	9.00	14.00	19.00
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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: 02/19/2020

Measurement duration: 22 minutes 01 seconds

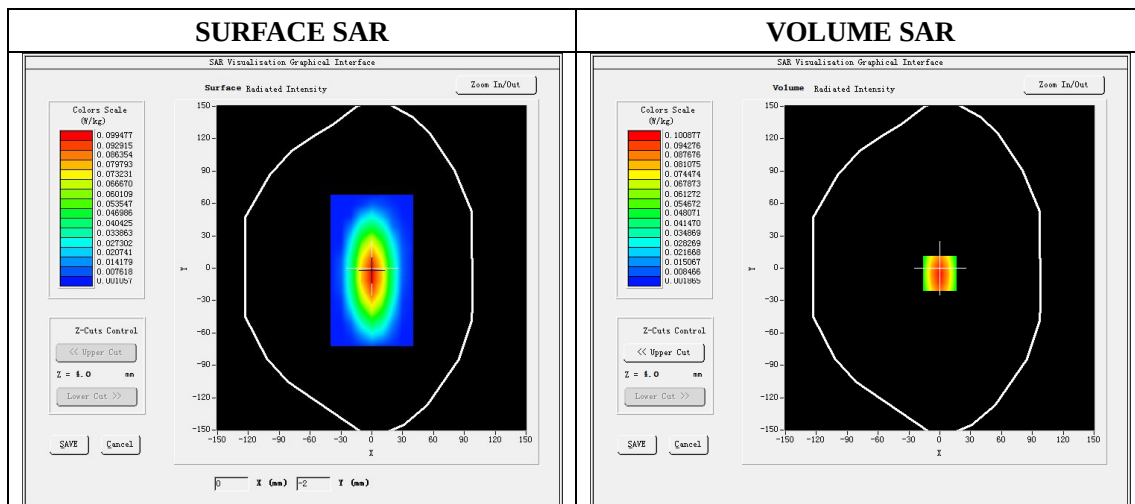
A. Experimental conditions.

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

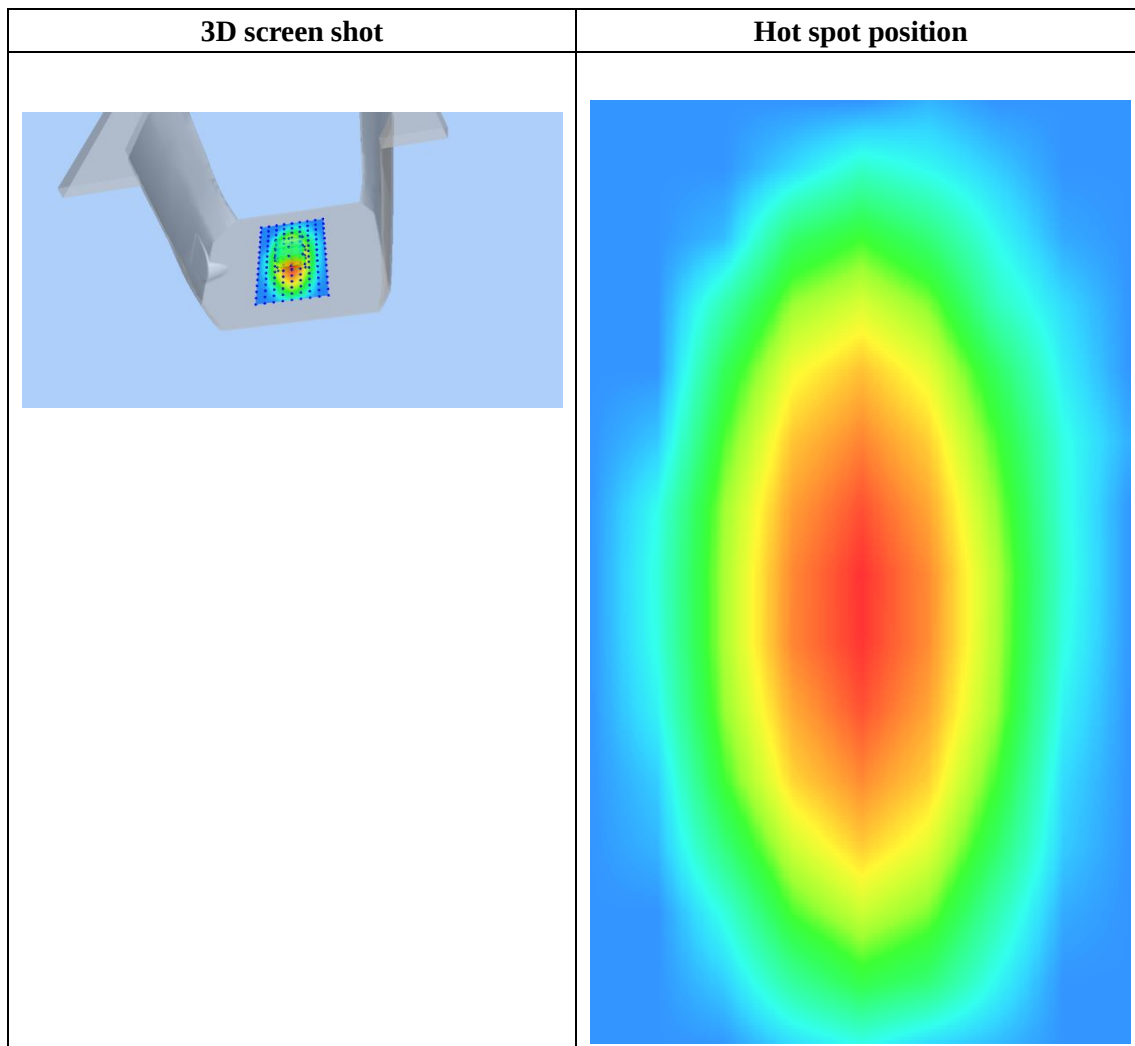
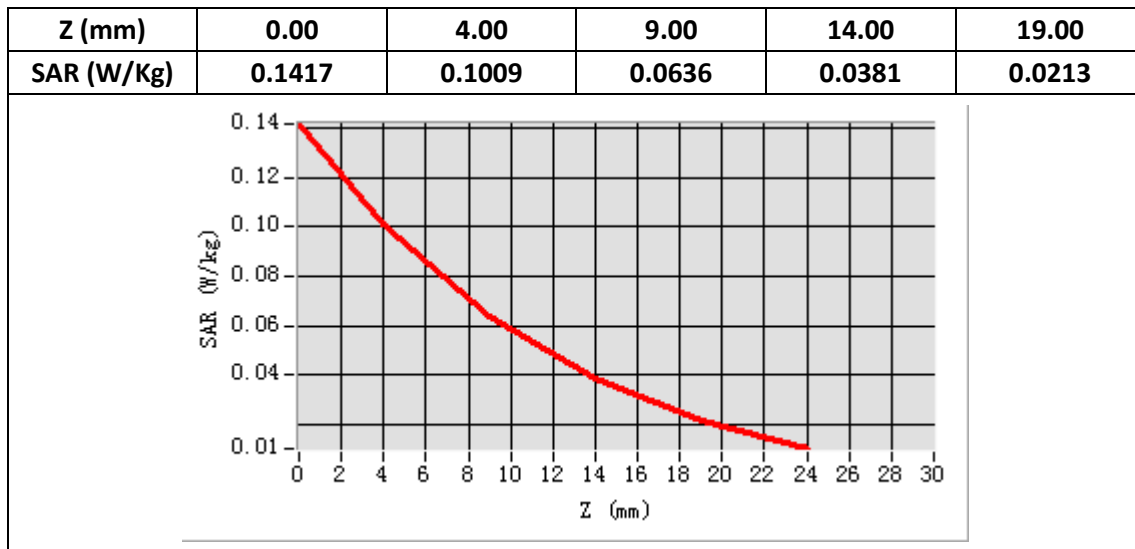
E-Field Probe	SATIMO SN_27/15_EPG0261
Frequency (MHz)	750
Relative permittivity (real part)	55.61
Relative permittivity	23.04
Conductivity (S/m)	0.96
Power drift (%)	-1.16
Ambient Temperature:	22.2°C
Liquid Temperature:	22.6°C
ConvF:	1.93
Crest factor:	1:1



Maximum location: X=0.00, Y=-5.00

SAR Peak: 0.14 W/kg

SAR 10g (W/Kg)	0.055479
SAR 1g (W/Kg)	0.094951



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: 02/20/2020

Measurement duration: 22 minutes 09 seconds

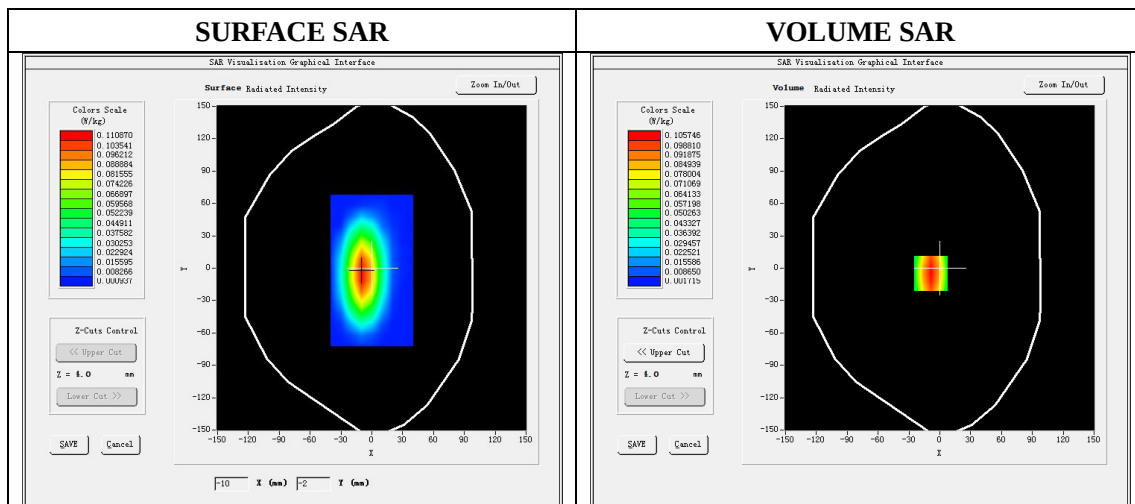
A. Experimental conditions.

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

B. SAR Measurement Results

Band SAR

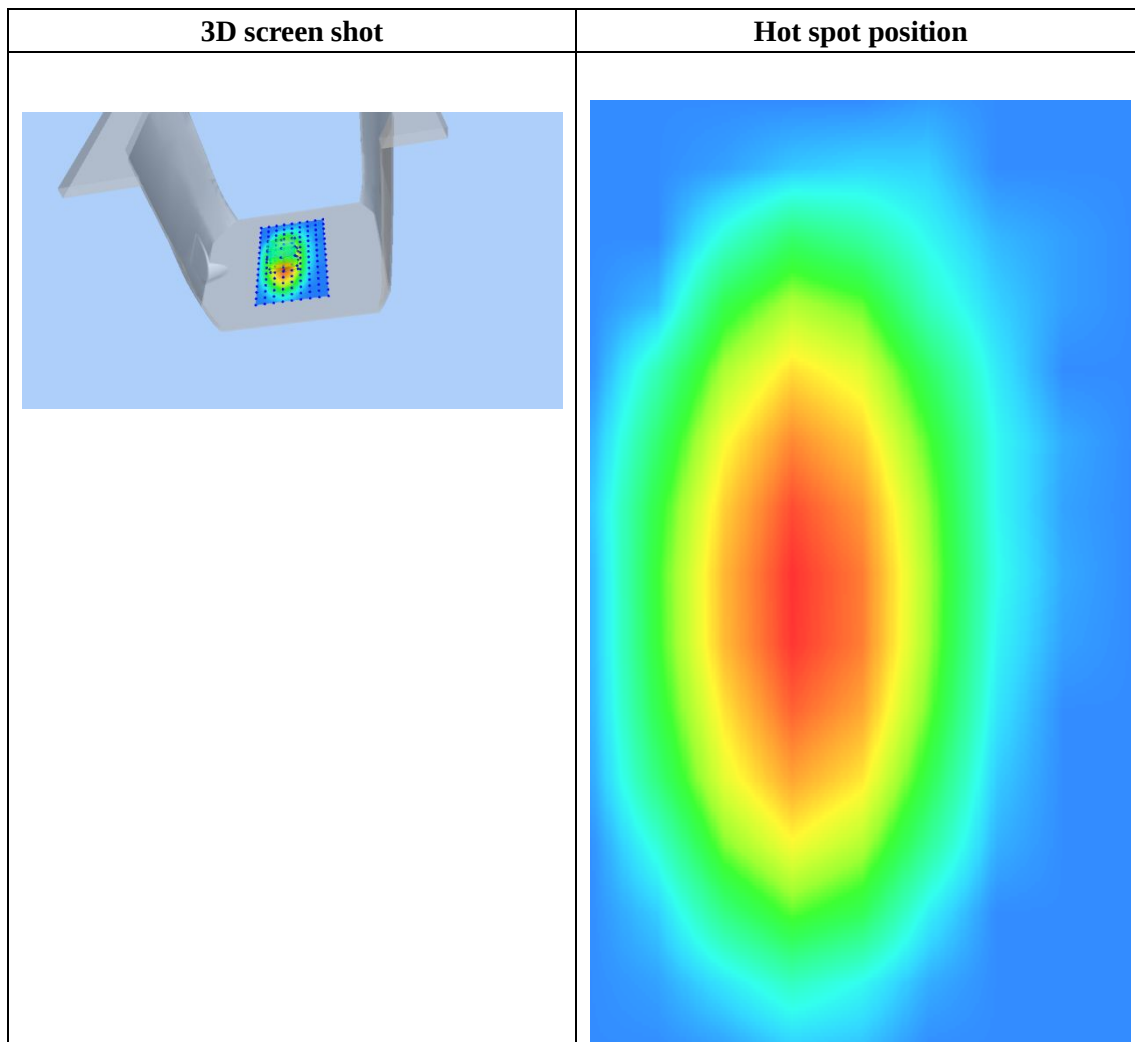
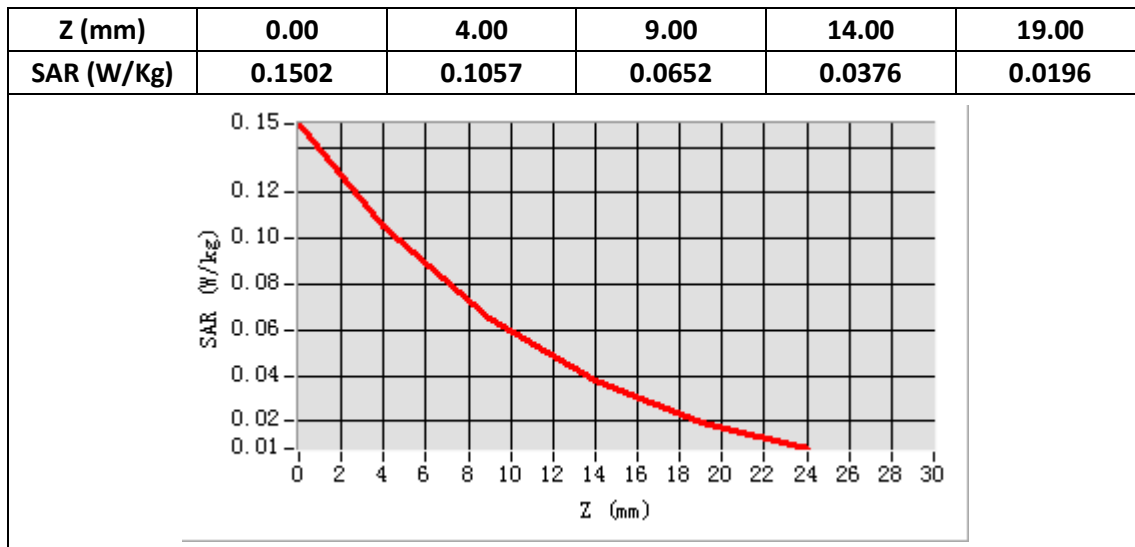
E-Field Probe	SATIMO SN_27/15_EPG0261
Frequency (MHz)	835
Relative permittivity (real part)	41.56
Relative permittivity	20.91
Conductivity (S/m)	0.97
Power drift (%)	-1.93
Ambient Temperature:	22.2°C
Liquid Temperature:	22.6°C
ConvF:	1.92
Crest factor:	1:1



Maximum location: X=-9.00, Y=-5.00

SAR Peak: 0.15 W/kg

SAR 10g (W/Kg)	0.056355
SAR 1g (W/Kg)	0.099016



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: 02/20/2020

Measurement duration: 22 minutes 02 seconds

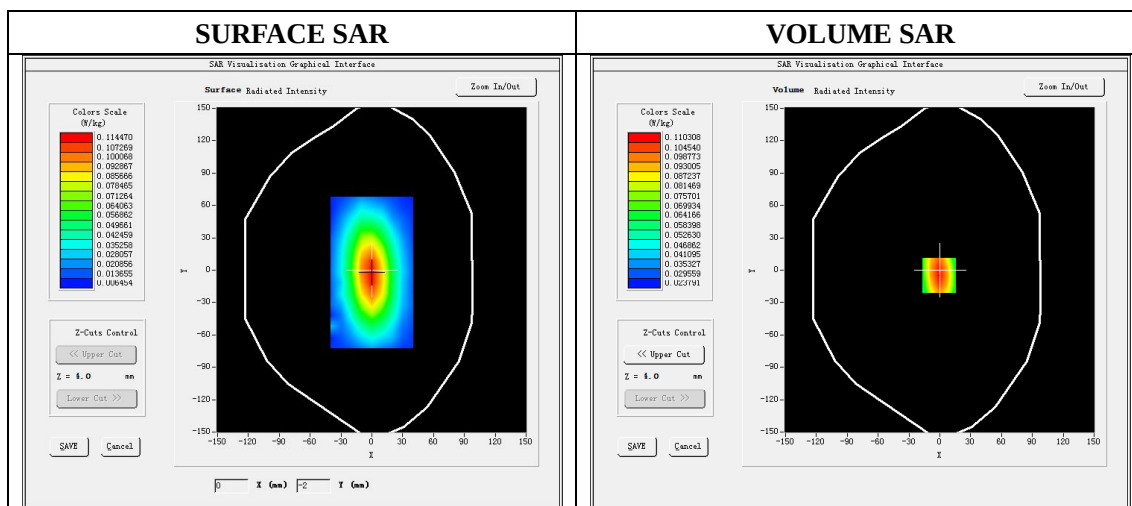
A. Experimental conditions.

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

B. SAR Measurement Results

Band SAR

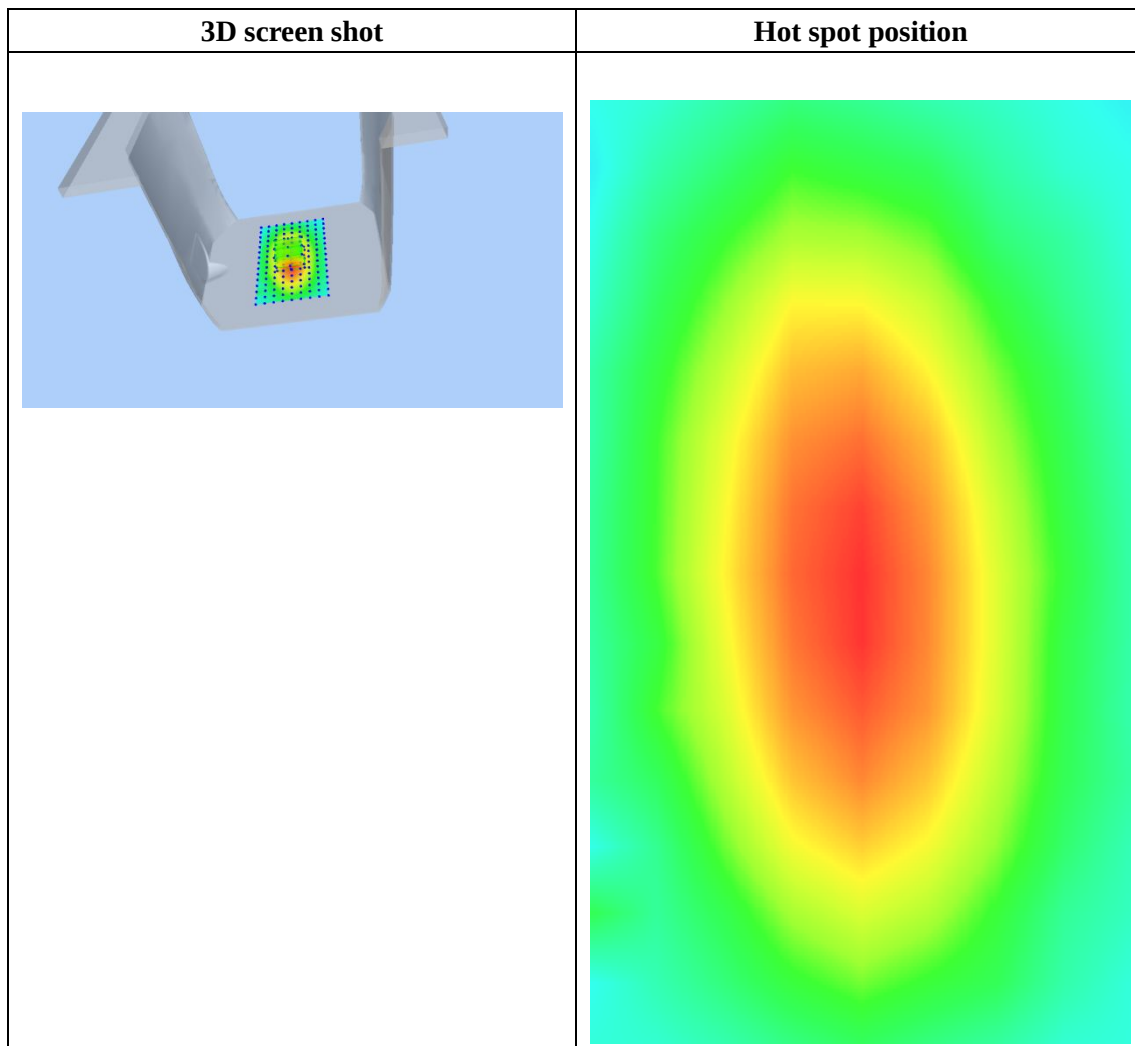
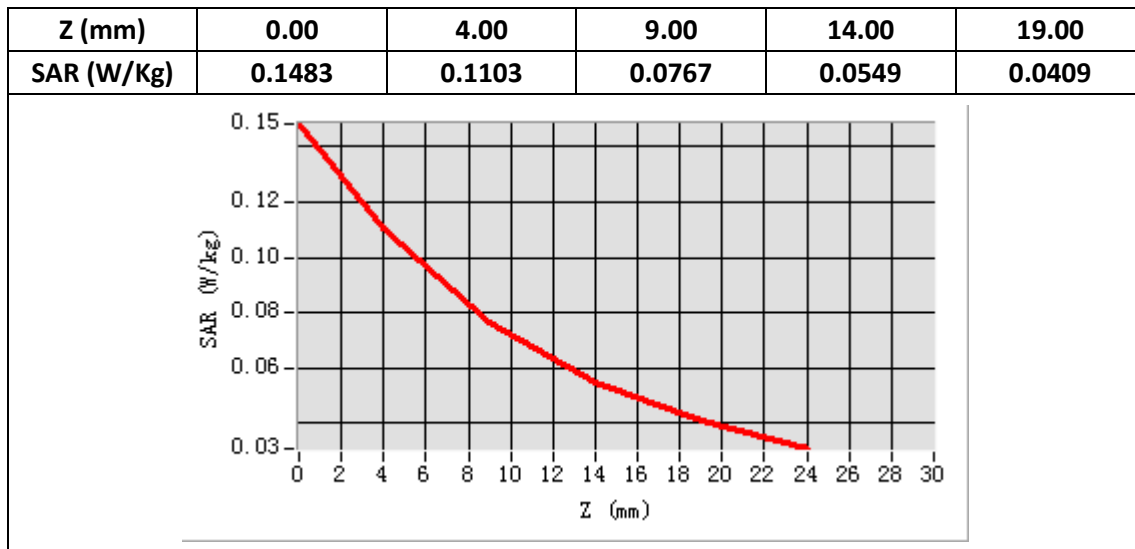
E-Field Probe	SATIMO SN_27/15_EPG0261
Frequency (MHz)	835
Relative permittivity (real part)	55.30
Relative permittivity	21.34
Conductivity (S/m)	0.99
Power drift (%)	-2.69
Ambient Temperature:	22.2°C
Liquid Temperature:	22.6°C
ConvF:	1.99
Crest factor:	1:1



Maximum location: X=-1.00, Y=-5.00

SAR Peak: 0.15 W/kg

SAR 10g (W/Kg)	0.071769
SAR 1g (W/Kg)	0.106869



System Performance Check (Head, 1800MHz)

Type: Validation measurement
CCIC-SET/TRF:ISAR(2019-05-23)

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

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

Date of measurement: 02/21/2020

Measurement duration: 22 minutes 07 seconds

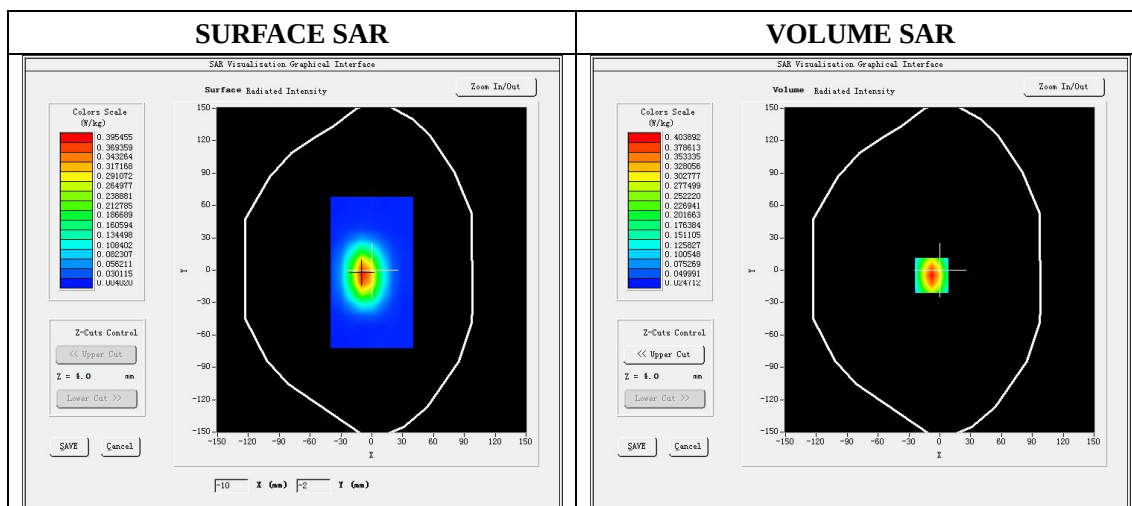
A. Experimental conditions.

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

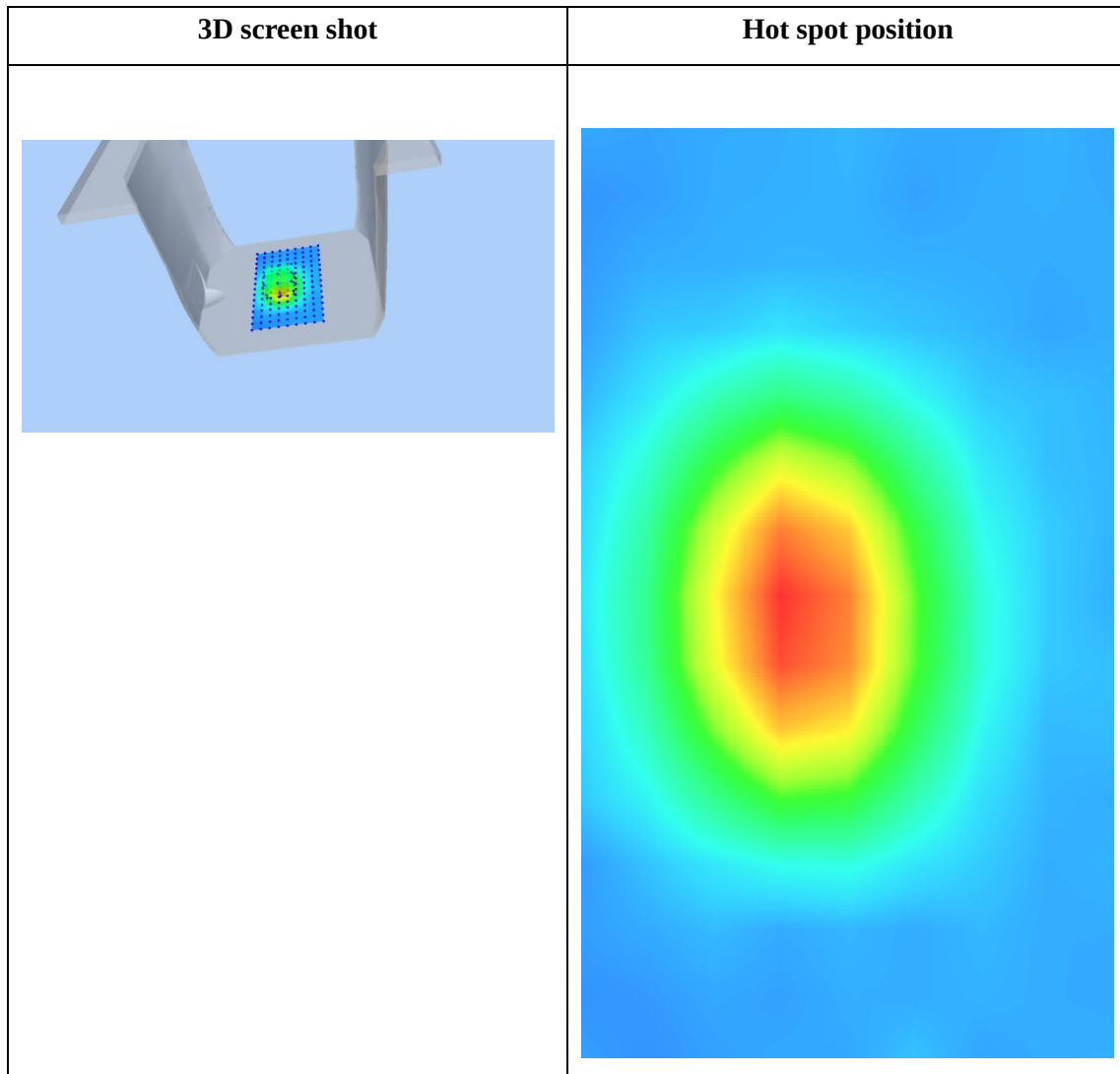
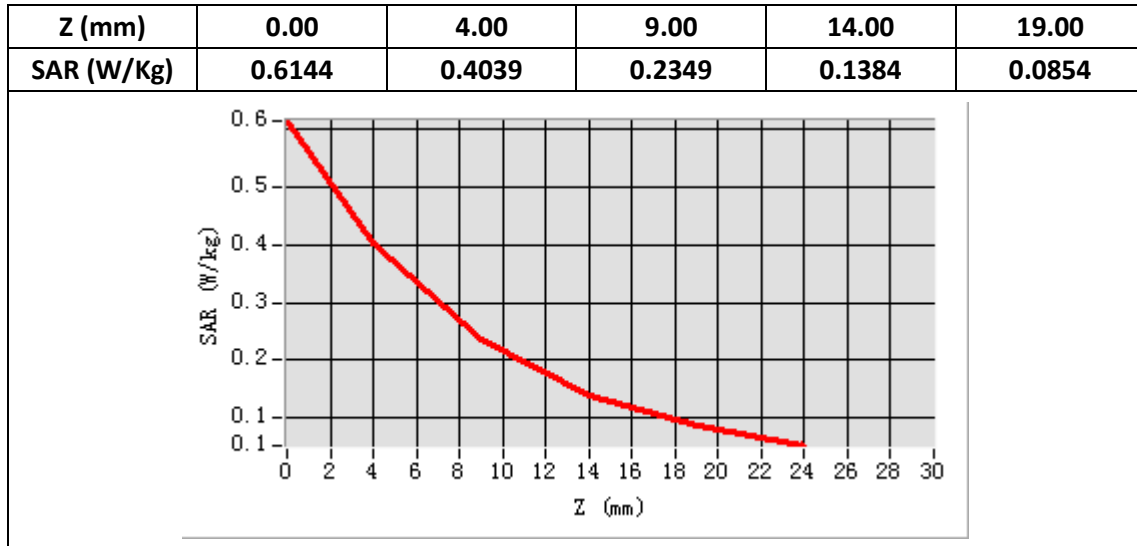
E-Field Probe	SATIMO SN_27/15_EPG0261
Frequency (MHz)	1800
Relative permittivity (real part)	40.42
Relative permittivity	13.80
Conductivity (S/m)	1.38
Power Drift (%)	-1.95
Ambient Temperature:	22.1°C
Liquid Temperature:	22.6°C
ConvF:	2.14
Duty factor:	1:1



Maximum location: X=-8.00, Y=-5.00

SAR Peak: 0.61 W/kg

SAR 10g (W/Kg)	0.204249
SAR 1g (W/Kg)	0.378897



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: 02/21/2020

Measurement duration: 22 minutes 04 seconds

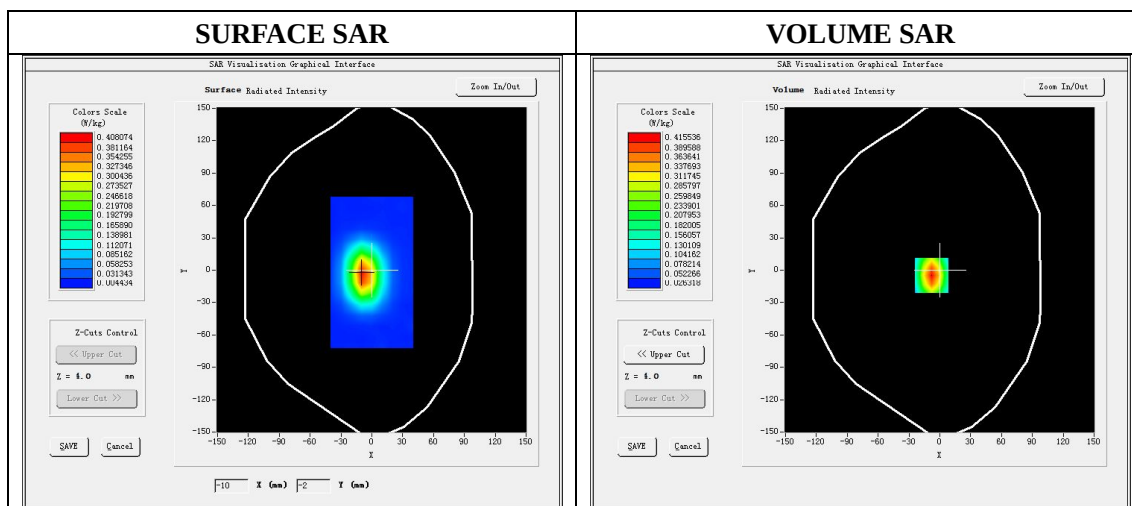
A. Experimental conditions.

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

B. SAR Measurement Results

Band SAR

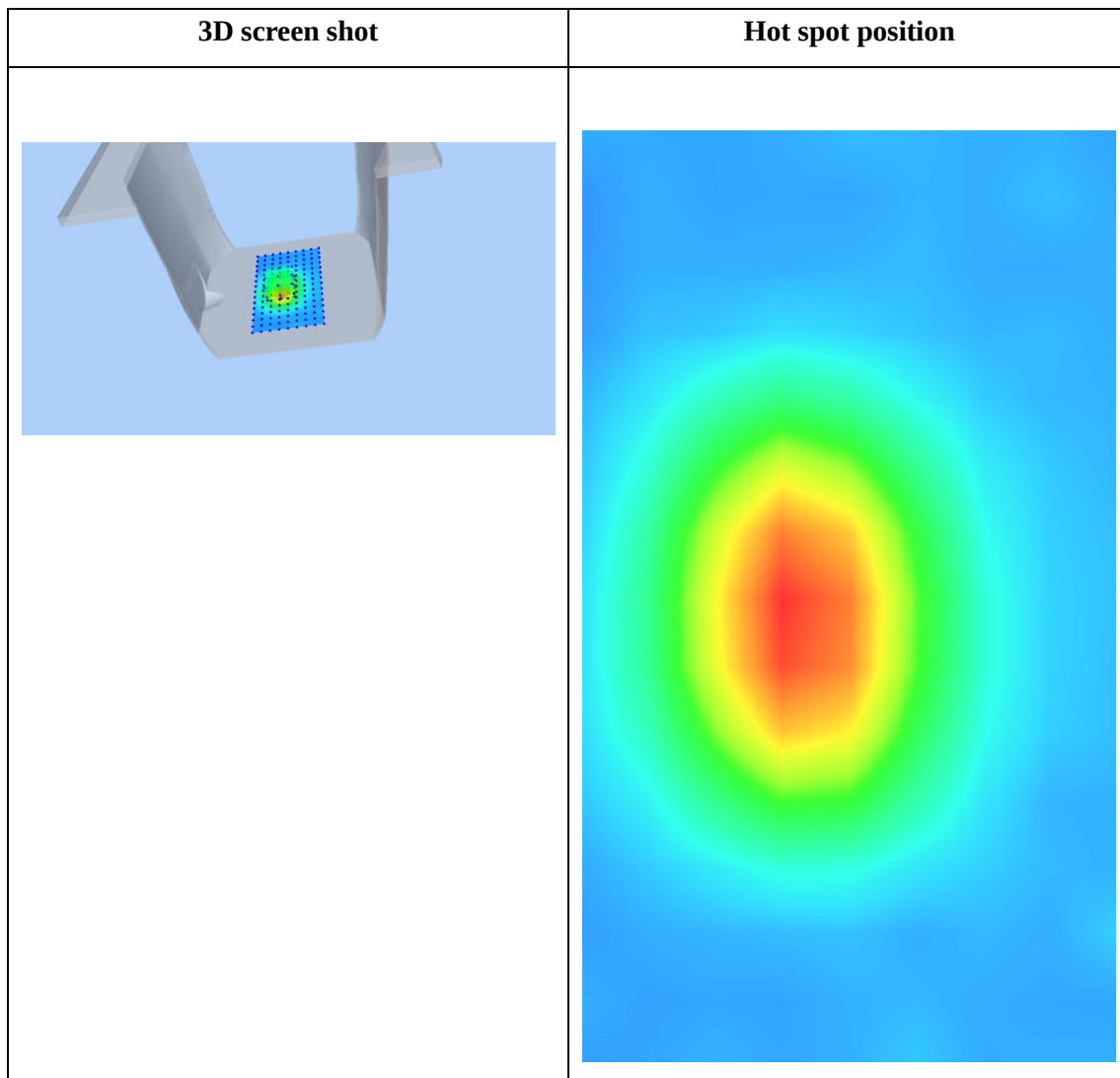
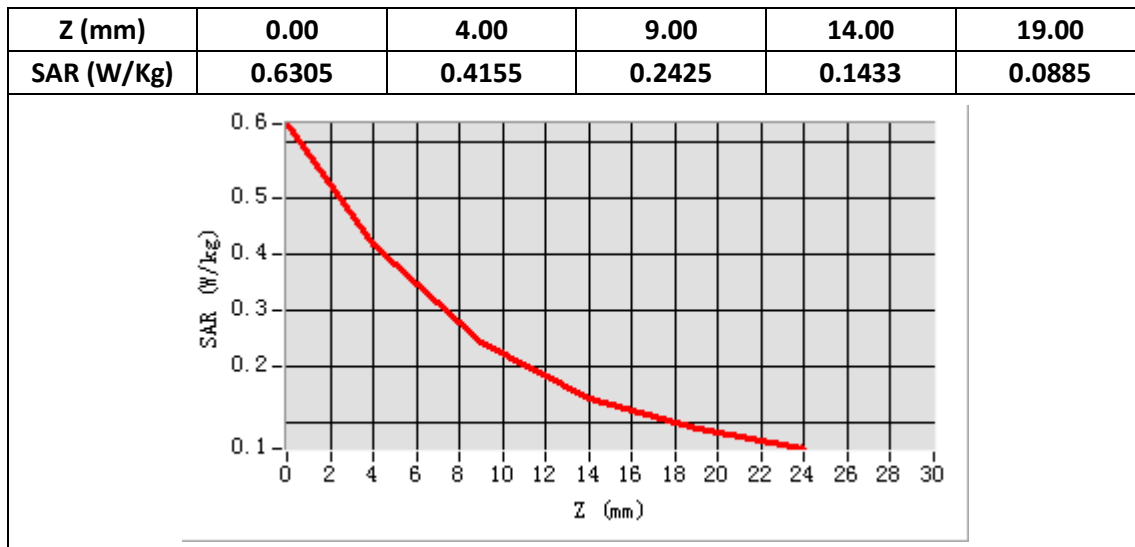
E-Field Probe	SATIMO SN_27/15_EPG0261
Frequency (MHz)	1800
Relative permittivity (real part)	53.37
Relative permittivity	15.00
Conductivity (S/m)	1.50
Power Drift (%)	-1.73
Ambient Temperature:	22.1°C
Liquid Temperature:	22.6°C
ConvF:	2.22
Duty factor:	1:1



Maximum location: X=-8.00, Y=-5.00

SAR Peak: 0.63 W/kg

SAR 10g (W/Kg)	0.208553
SAR 1g (W/Kg)	0.384199



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: 02/22/2020

Measurement duration: 22 minutes 05 seconds

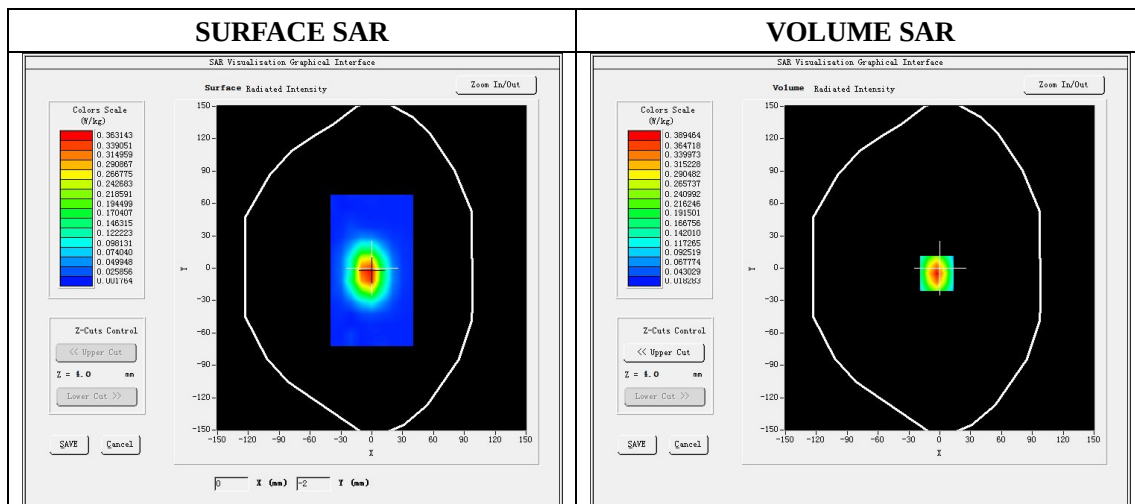
A. Experimental conditions.

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

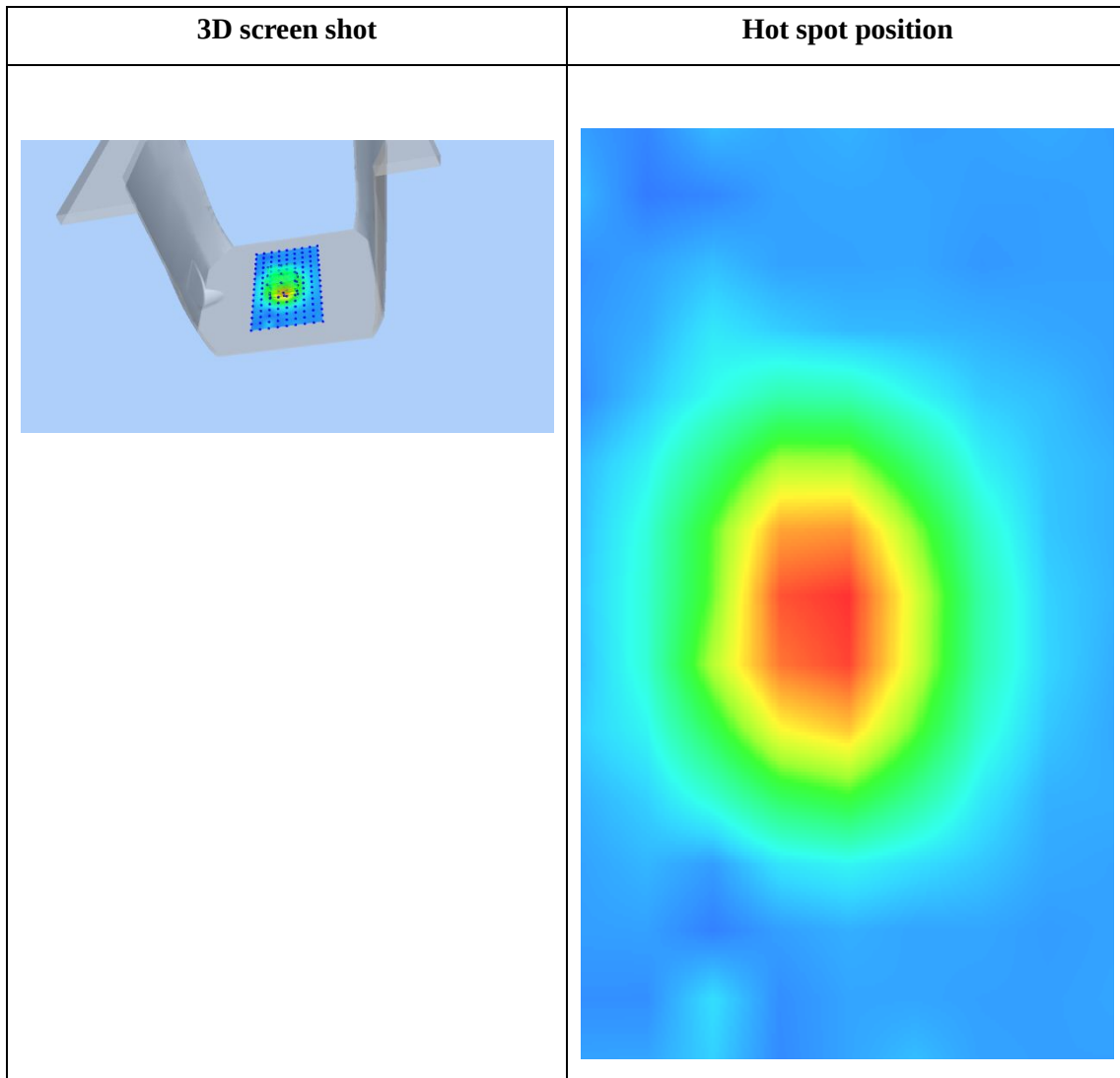
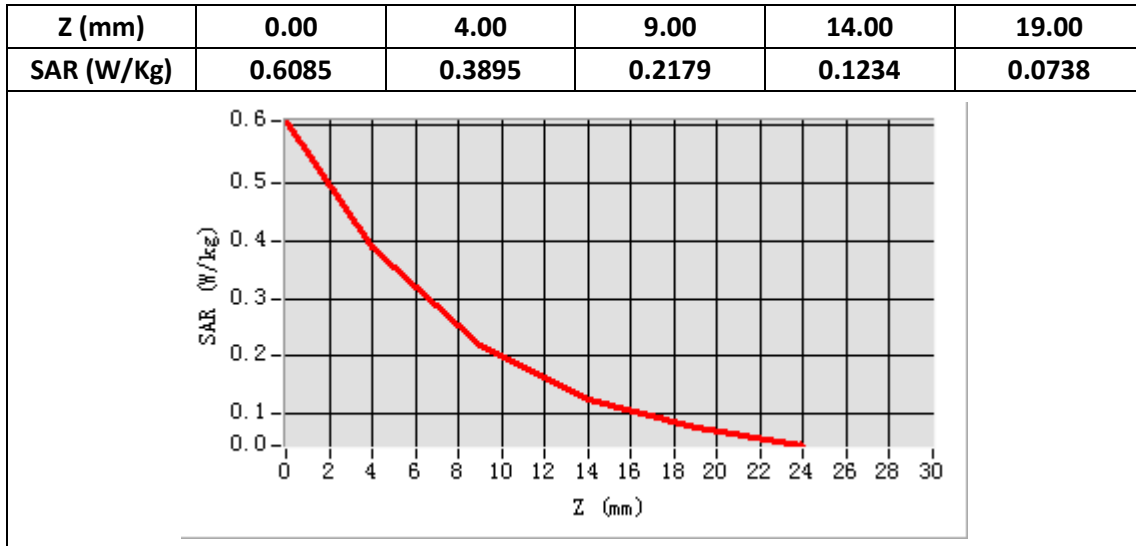
E-Field Probe	SATIMO SN_27/15_EPG0261
Frequency (MHz)	1900
Relative permittivity (real part)	40.33
Relative permittivity	13.26
Conductivity (S/m)	1.40
Power Drift (%)	-2.84
Ambient Temperature:	22.1°C
Liquid Temperature:	22.6°C
ConvF:	2.34
Duty factor:	1:1



Maximum location: X=-3.00, Y=-5.00

SAR Peak: 0.61 W/kg

SAR 10g (W/Kg)	0.188347
SAR 1g (W/Kg)	0.358809



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: 02/22/2020

Measurement duration: 22 minutes 06 seconds

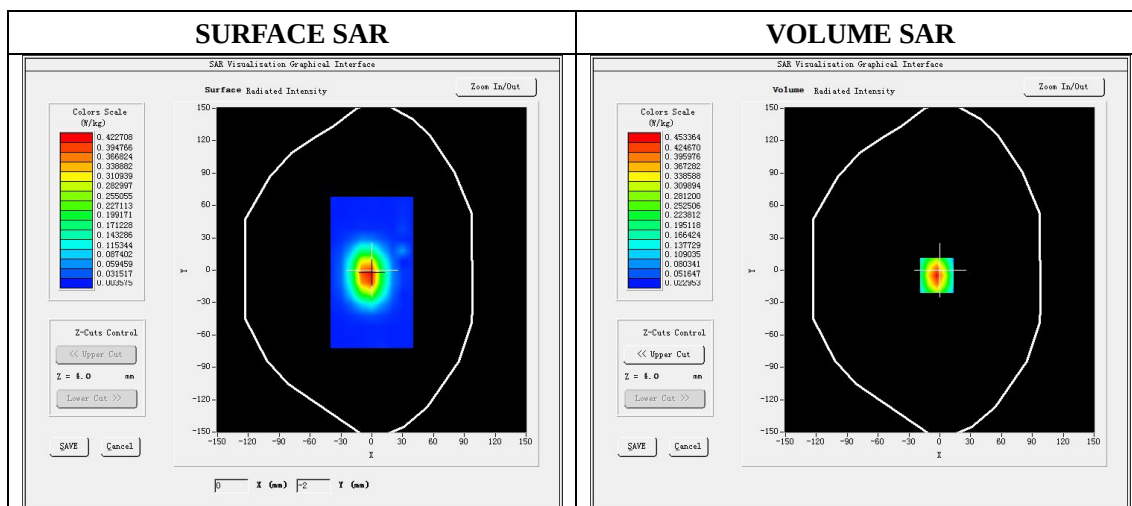
A. Experimental conditions.

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

B. SAR Measurement Results

Band SAR

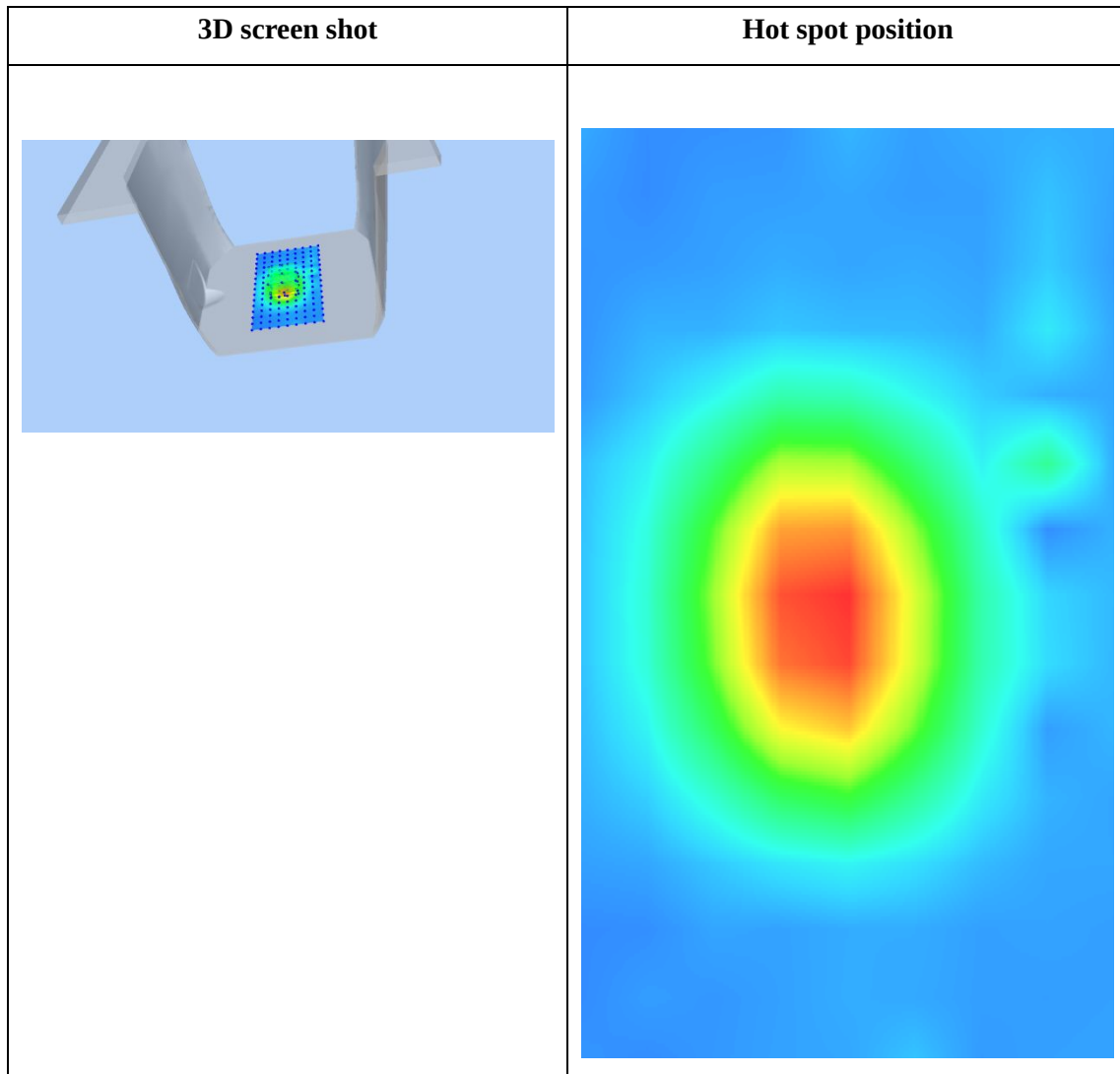
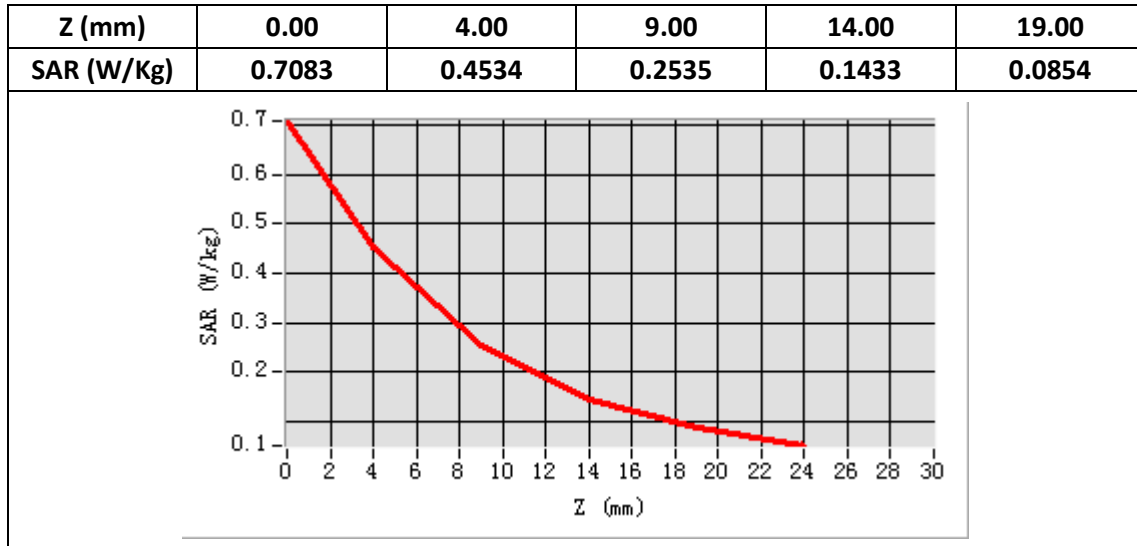
E-Field Probe	SATIMO SN_27/15_EPG0261
Frequency (MHz)	1900
Relative permittivity (real part)	53.29
Relative permittivity	14.40
Conductivity (S/m)	1.52
Power Drift (%)	-2.10
Ambient Temperature:	22.1°C
Liquid Temperature:	22.6°C
ConvF:	2.39
Duty factor:	1:1



Maximum location: X=-3.00, Y=-5.00

SAR Peak: 0.71 W/kg

SAR 10g (W/Kg)	0.219116
SAR 1g (W/Kg)	0.417570



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: 02/24/2020

Measurement duration: 22 minutes 14 seconds

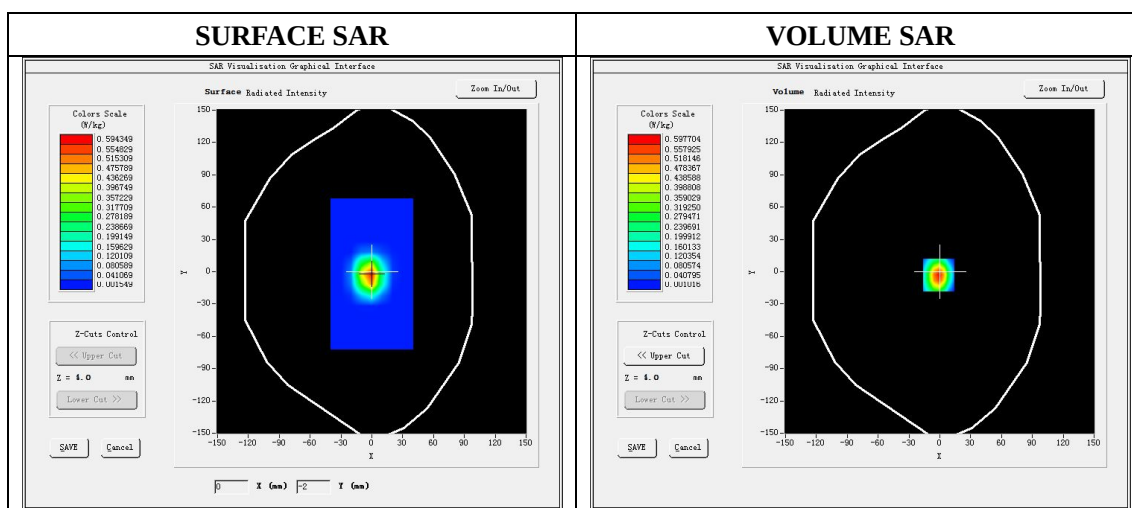
A. Experimental conditions.

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)	39.30
Relative permittivity	13.37
Conductivity (S/m)	1.82
Power Drift (%)	-1.36
Ambient Temperature:	22.1°C
Liquid Temperature:	22.6°C
ConvF:	2.37
Duty factor:	1:1

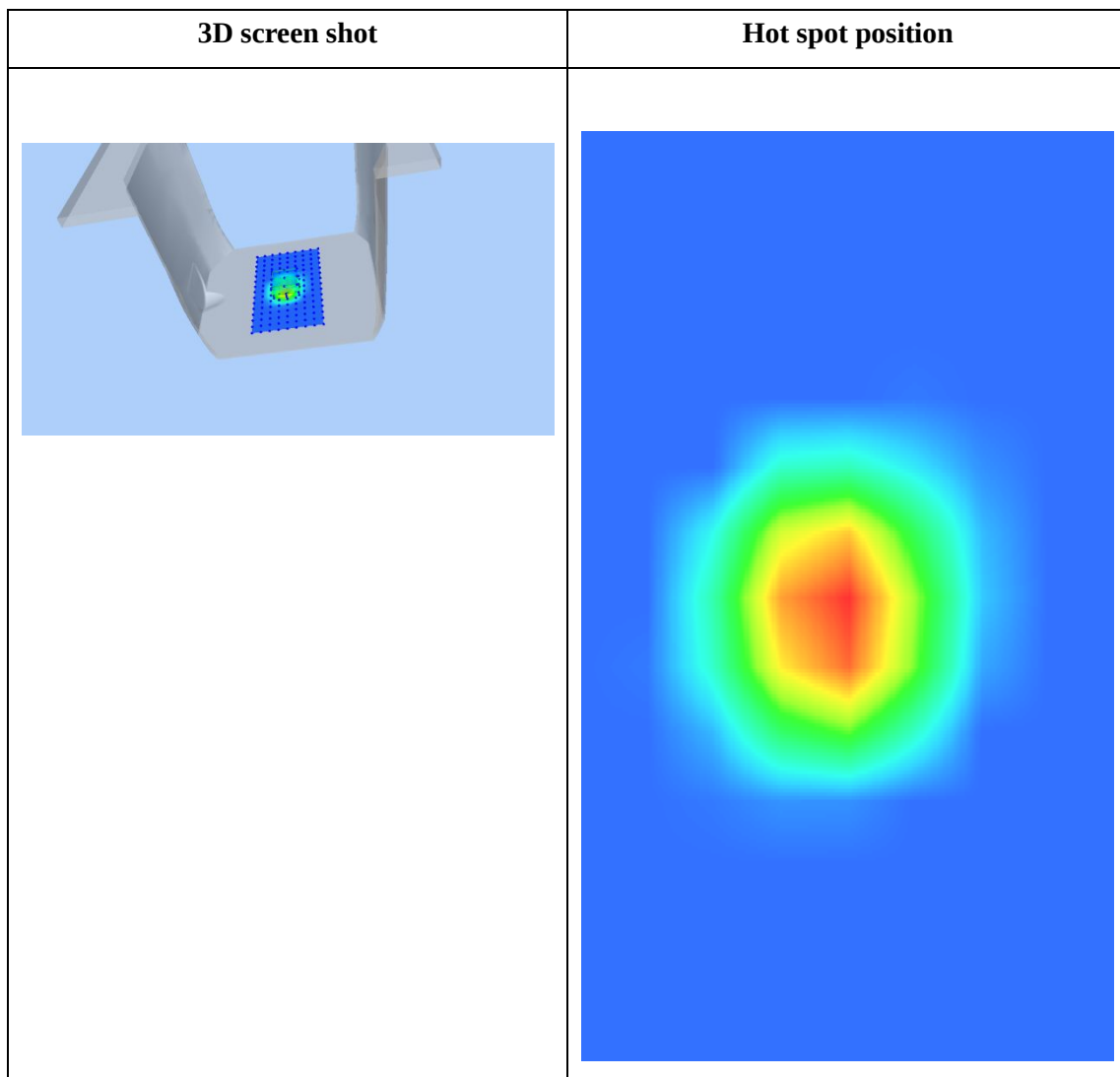
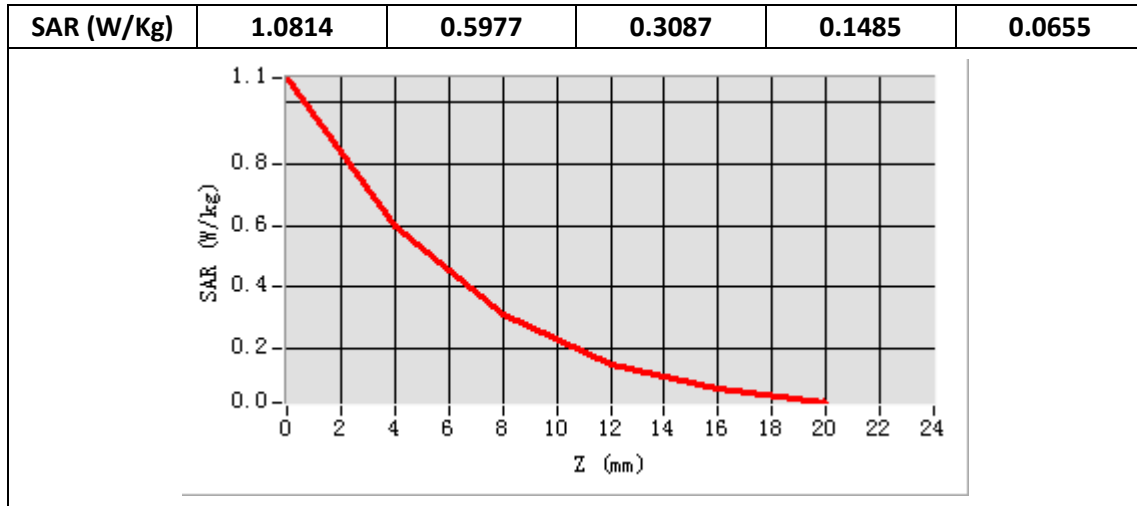


Maximum location: X=-1.00, Y=-3.00

SAR Peak: 1.08 W/kg

SAR 10g (W/Kg)	0.215043
SAR 1g (W/Kg)	0.527074

Z (mm)	0.00	4.00	8.00	12.00	16.00
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System Performance Check (Body, 2450MHz)

Type: Phone measurement

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

CCIC-SET/TRF:ISAR(2019-05-23)

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

Date of measurement: 02/24/2020

Measurement duration: 22 minutes 12 seconds

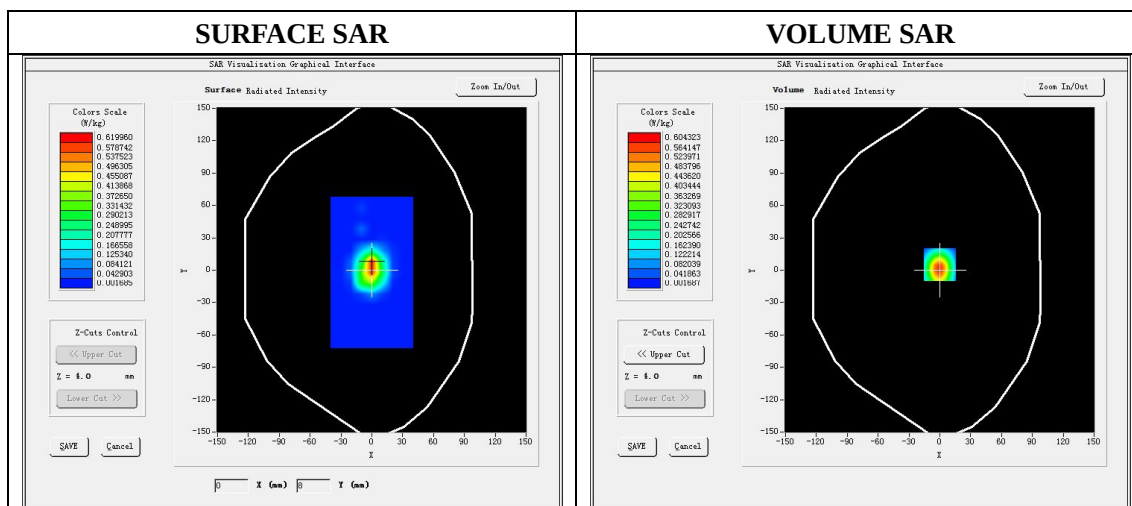
A. Experimental conditions.

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)	52.74
Relative permittivity	14.47
Conductivity (S/m)	1.97
Power Drift (%)	-1.25
Ambient Temperature:	22.1°C
Liquid Temperature:	22.6°C
ConvF:	2.46
Duty factor:	1:1

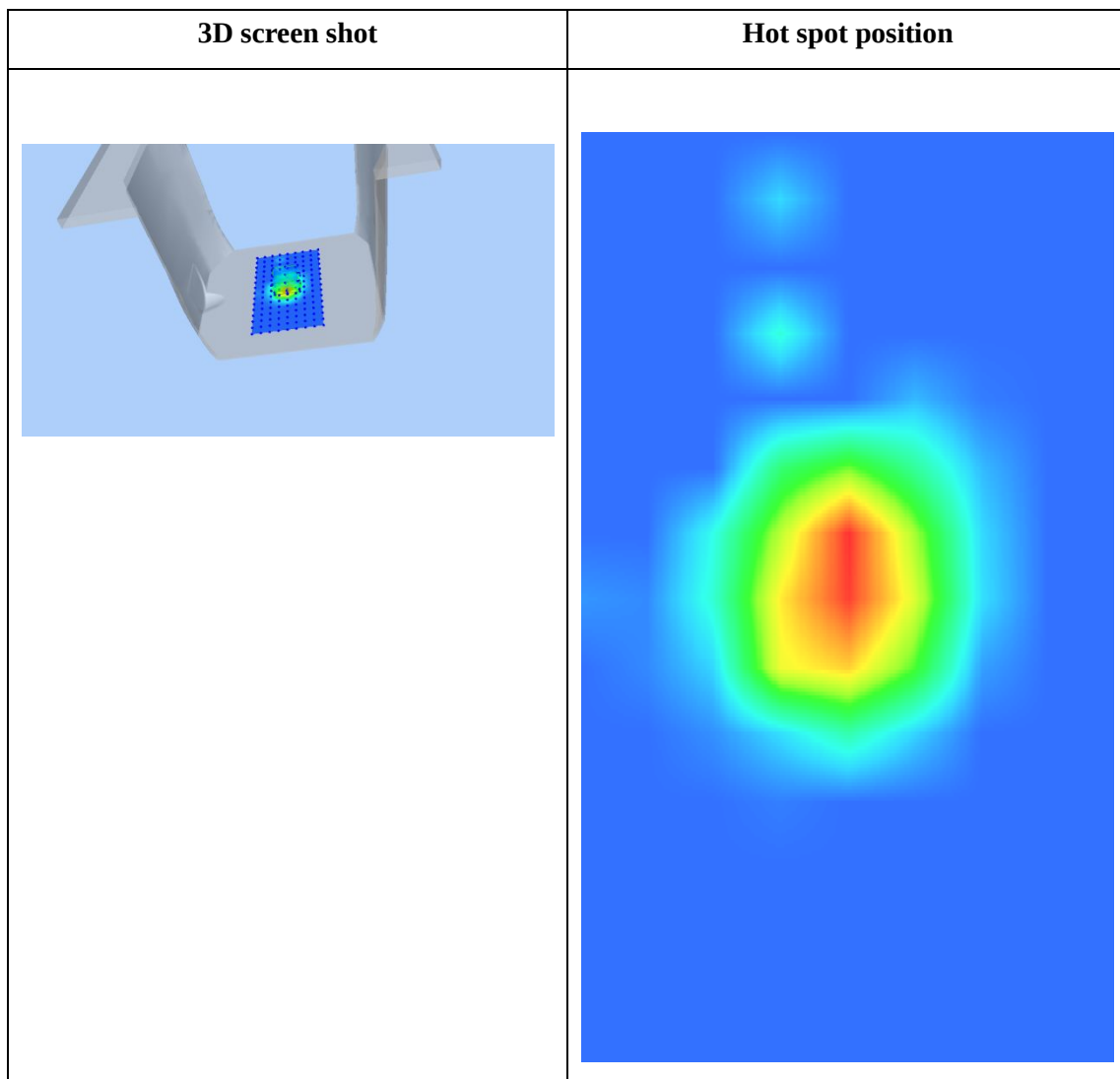
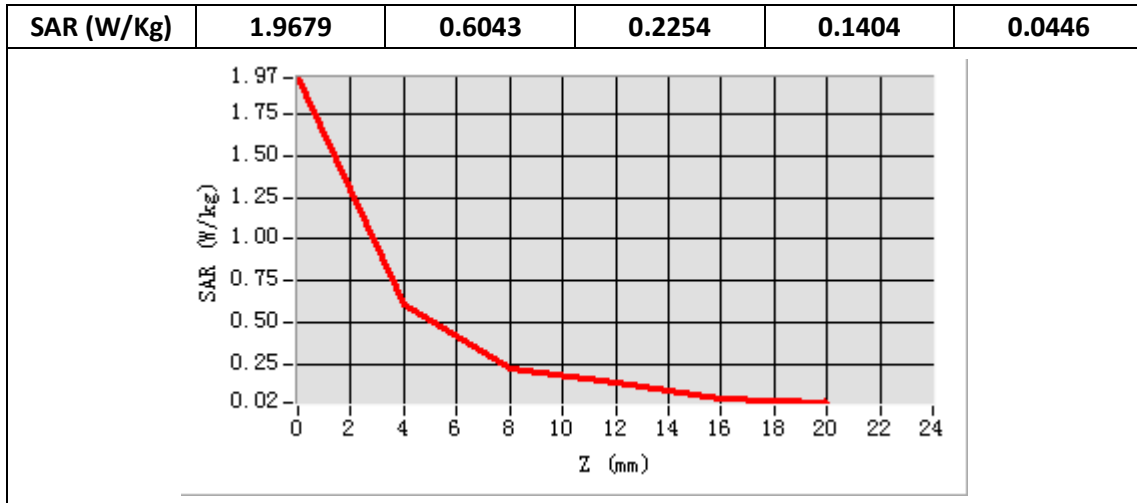


Maximum location: X=0.00, Y=5.00

SAR Peak: 1.13 W/kg

SAR 10g (W/Kg)	0.225590
SAR 1g (W/Kg)	0.547420

Z (mm)	0.00	4.00	8.00	12.00	16.00
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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: 02/25/2020

Measurement duration: 22 minutes10 seconds

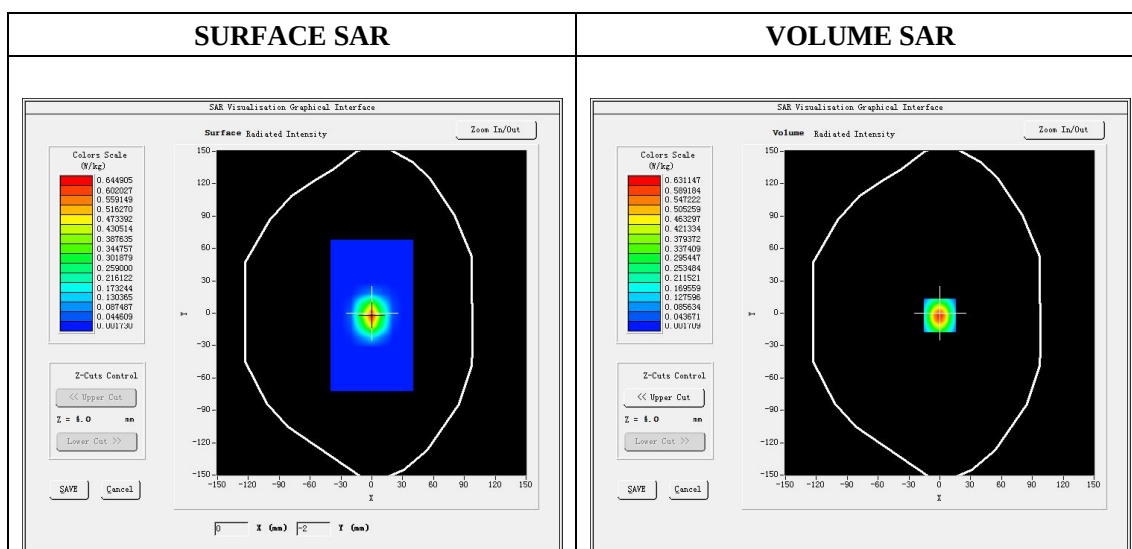
A. Experimental conditions.

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)	39.06
Relative permittivity	13.71
Conductivity (S/m)	1.98
Power drift (%)	1.09
Ambient Temperature:	22.2°C
Liquid Temperature:	22.5°C
Crest factor:	1:1
ConvF:	2.35

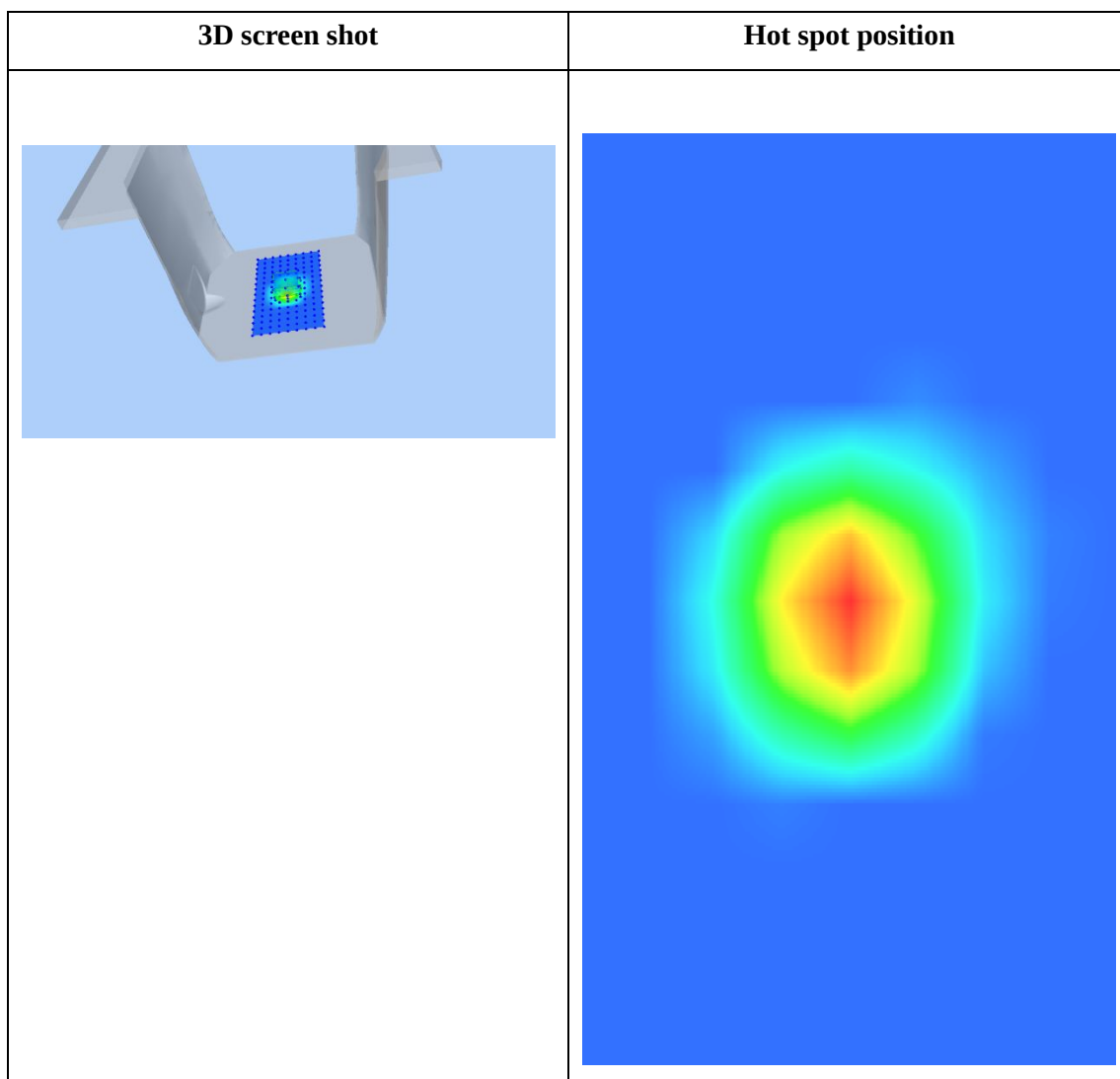
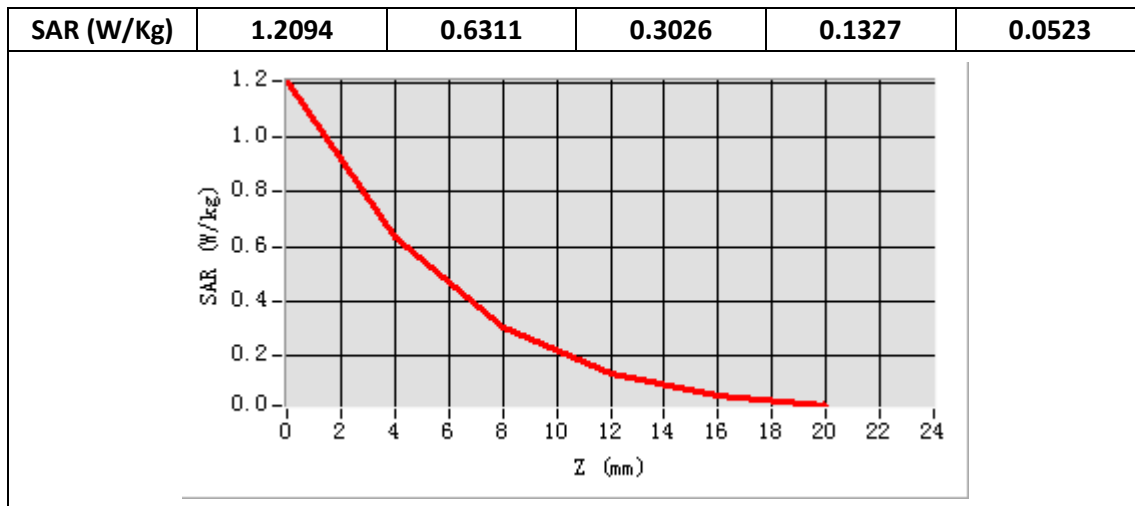


Maximum location: X=0.00, Y=-2.00

SAR Peak: 1.21 W/kg

SAR 10g (W/Kg)	0.226842
SAR 1g (W/Kg)	0.567937

Z (mm)	0.00	4.00	8.00	12.00	16.00
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System Performance Check (Body, 2600MHz)

Type: Phone measurement

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

CCIC-SET/TRF:ISAR(2019-05-23)

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

Date of measurement: 02/25/2020

Measurement duration: 22 minutes 11 seconds

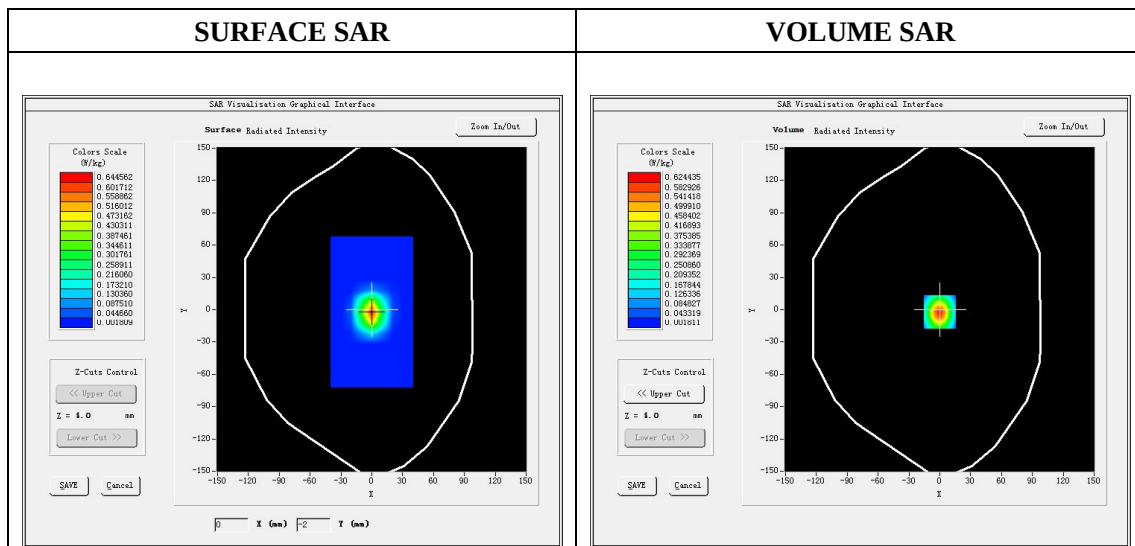
A. Experimental conditions.

Phantom File	dx=8mm dy=8mm
Phantom	7x7x8,dx=5mm dy=5mm dz=4mm
Device Position	Dipole
Band	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)	52.50
Relative permittivity	14.75
Conductivity (S/m)	2.13
Power drift (%)	-2.50
Ambient Temperature:	22.2°C
Liquid Temperature:	22.5°C
Crest factor:	1:1
ConvF:	2.43

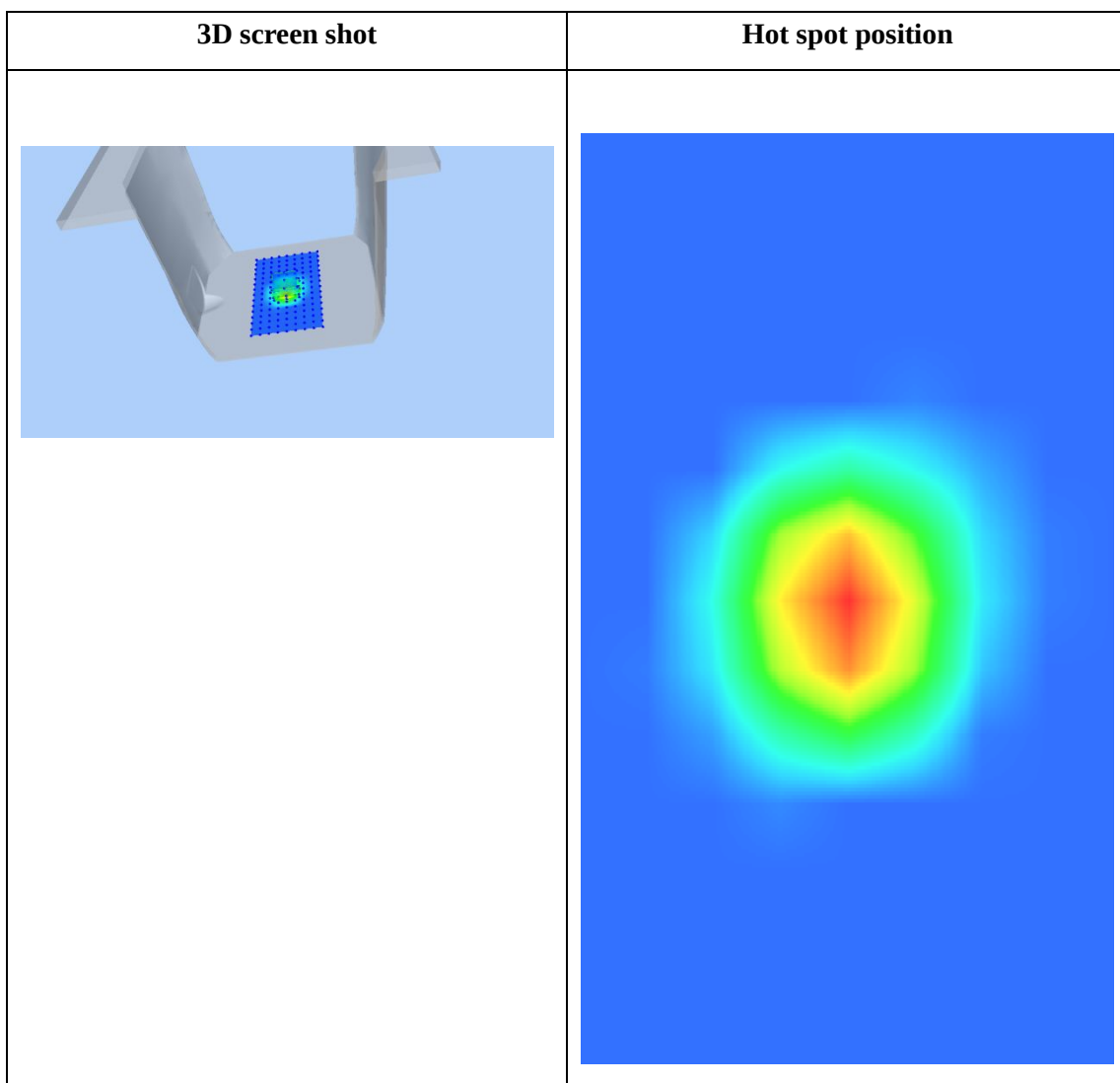
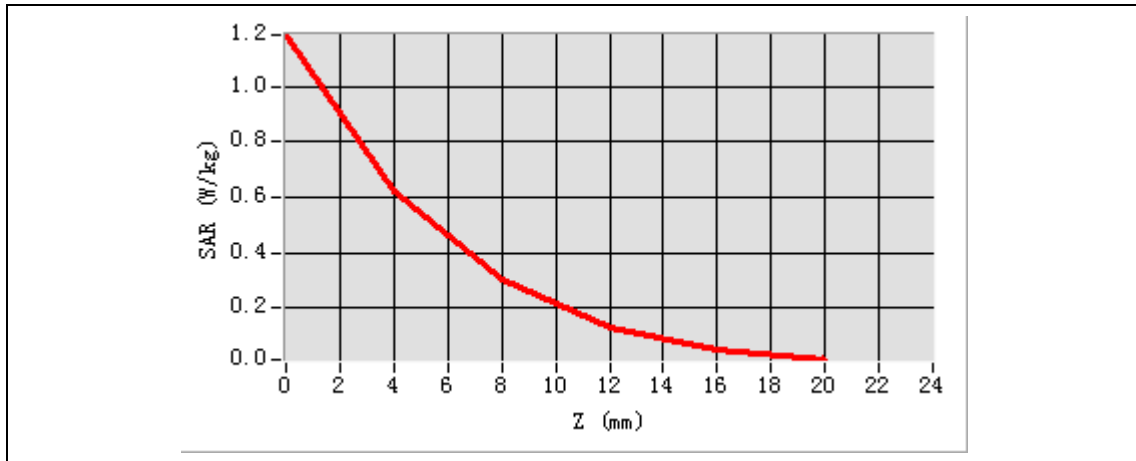


Maximum location: X=0.00, Y=-2.00

SAR Peak: 1.19 W/kg

SAR 10g (W/Kg)	0.222196
SAR 1g (W/Kg)	0.555753

Z (mm)	0.00	4.00	8.00	12.00	16.00
SAR (W/Kg)	1.1879	0.6244	0.3008	0.1311	0.0498



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: 02/26/2020

Measurement duration: 22 minutes 17 seconds

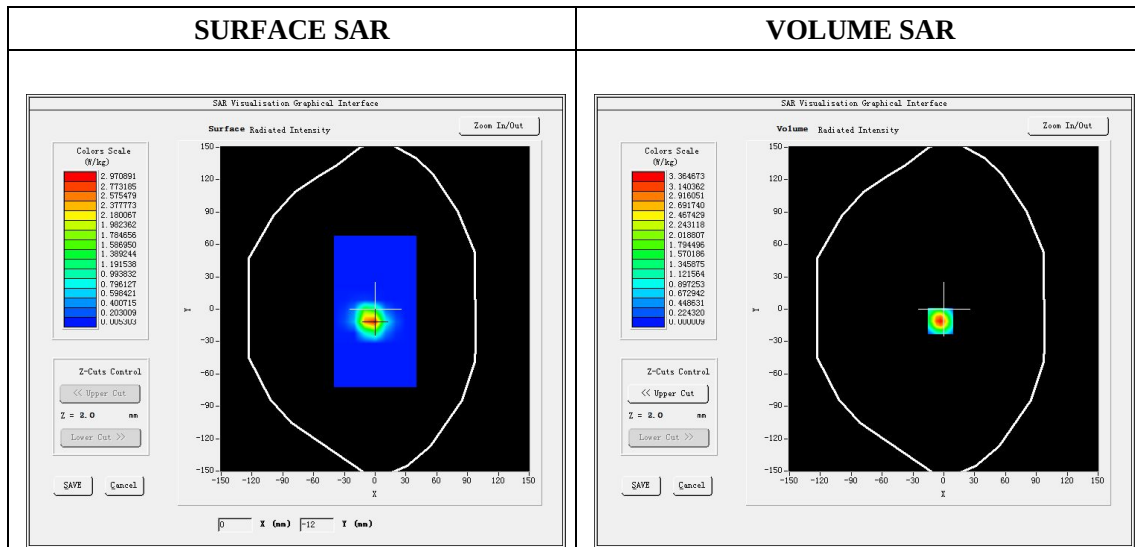
A. Experimental conditions.

Phantom File	dx=8mm dy=8mm
Phantom	7x7x8,dx=4mm dy=4mm dz=2mm
Device Position	Dipole
Band	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)	36.29
Relative permittivity	16.10
Conductivity (S/m)	4.65
Power drift (%)	
Ambient Temperature:	22.2°C
Liquid Temperature:	22.5°C
Crest factor:	1:1
ConvF:	2.15

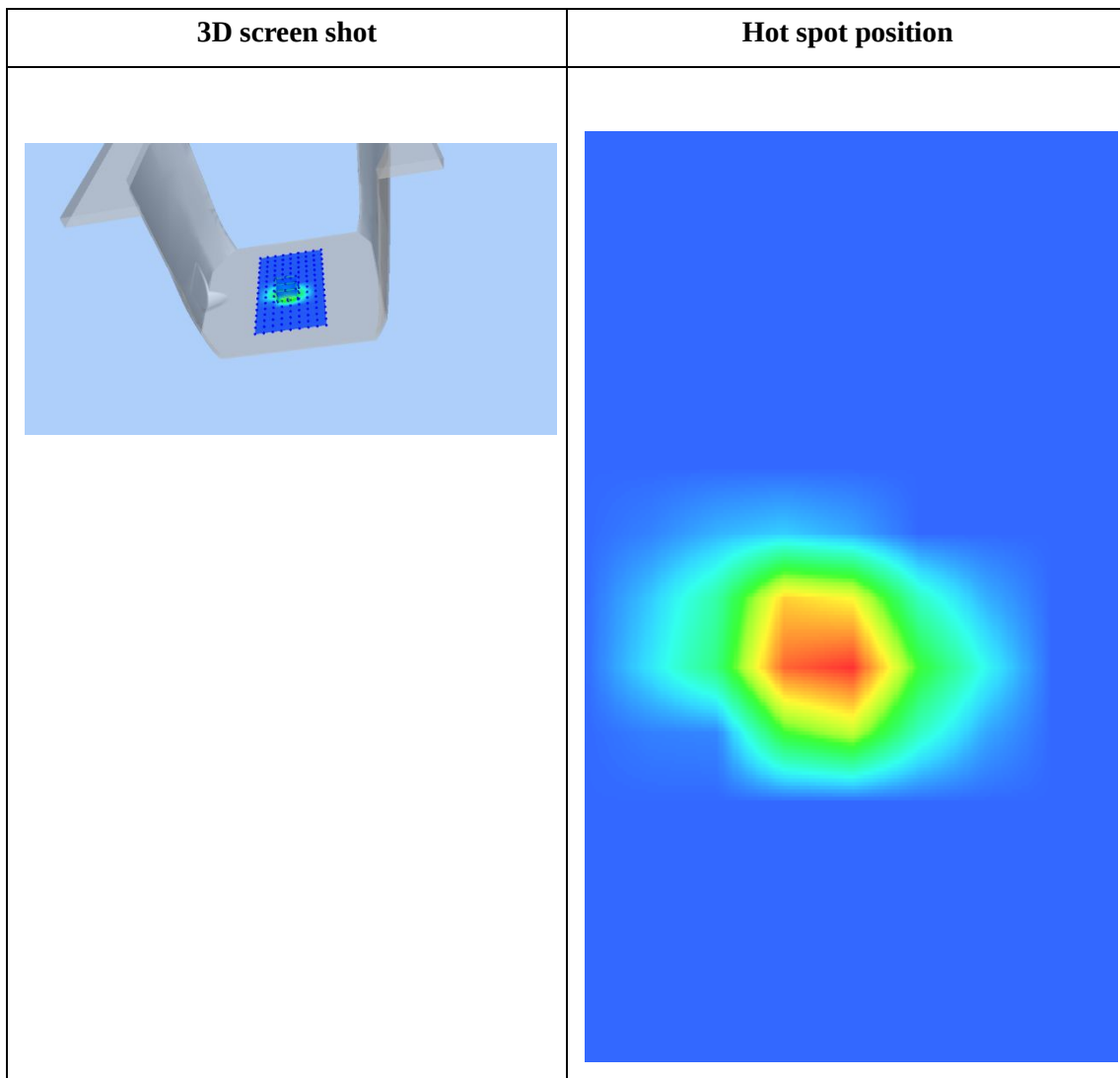
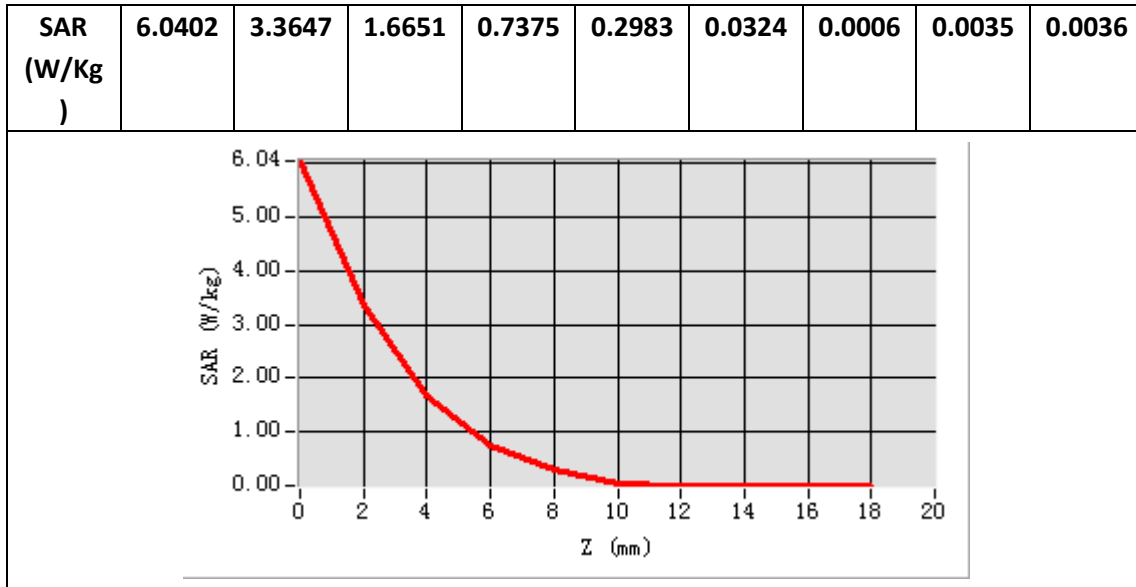


Maximum location: X=-3.00, Y=-11.00

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
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System Performance Check (Body, 5200MHz)

Type: Phone measurement

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

CCIC-SET/TRF:ISAR(2019-05-23)

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

Date of measurement: 02/26/2020

Measurement duration: 22 minutes 15 seconds

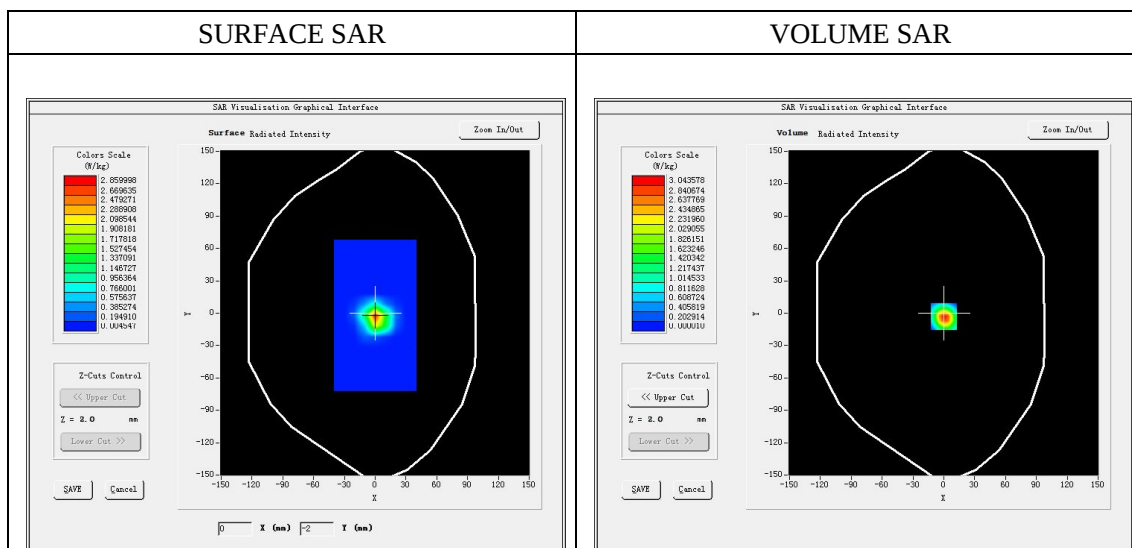
A. Experimental conditions.

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)	50.18
Relative permittivity	18.07
Conductivity (S/m)	5.22
Power drift (%)	
Ambient Temperature:	22.2°C
Liquid Temperature:	22.5°C
Crest factor:	1:1
ConvF:	2.21

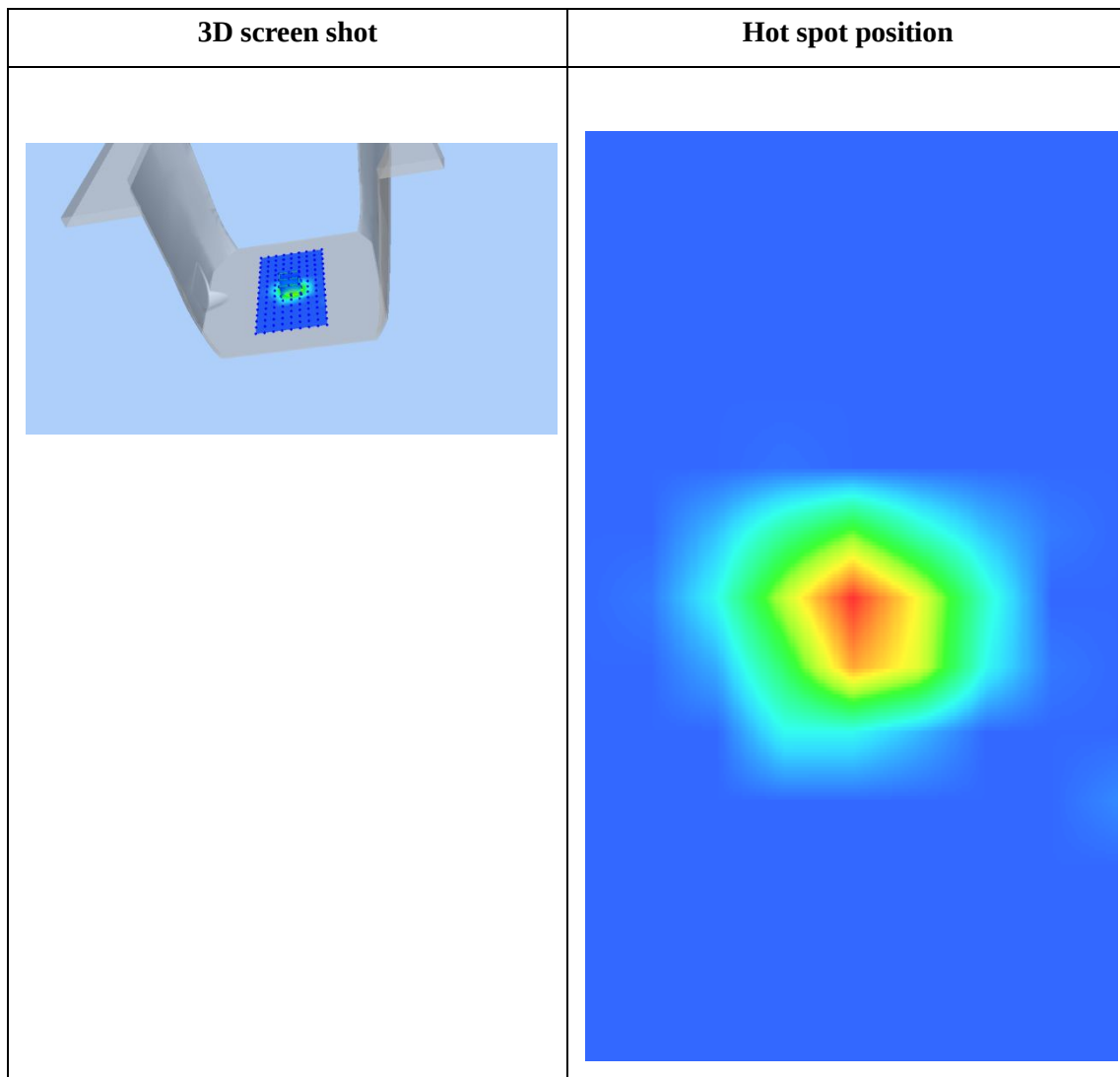
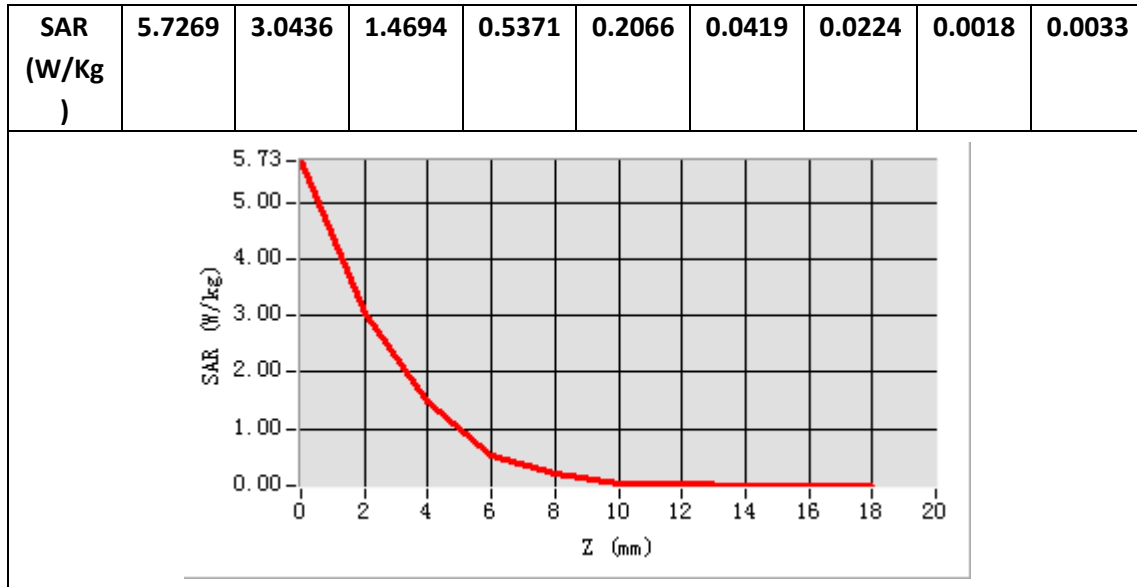


Maximum location: X=0.00, Y=-3.00

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
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System Performance Check (Head, 5800MHz)

Type: Phone measurement

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

CCIC-SET/TRF:ISAR(2019-05-23)

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

Date of measurement: 02/27/2020

Measurement duration: 22 minutes 16 seconds

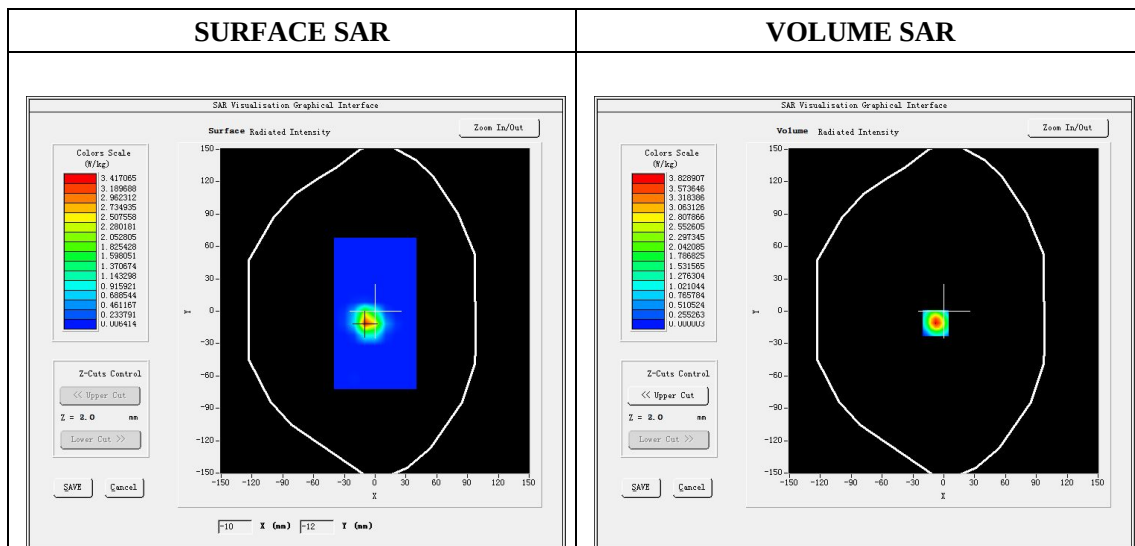
A. Experimental conditions.

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)	35.57
Relative permittivity	16.29
Conductivity (S/m)	5.25
Power drift (%)	
Ambient Temperature:	22.2°C
Liquid Temperature:	22.5°C
Crest factor:	1:1
ConvF:	2.19

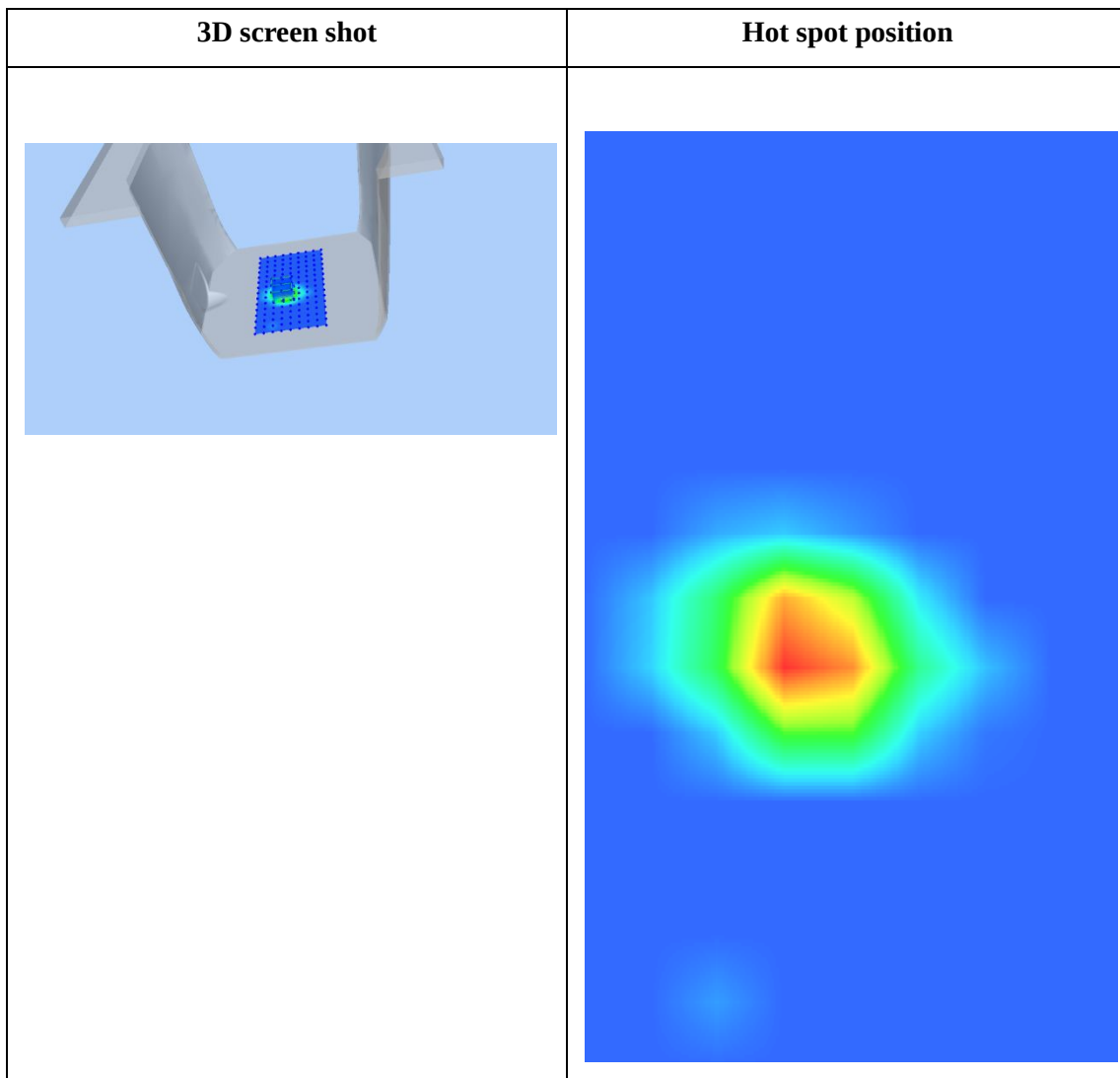
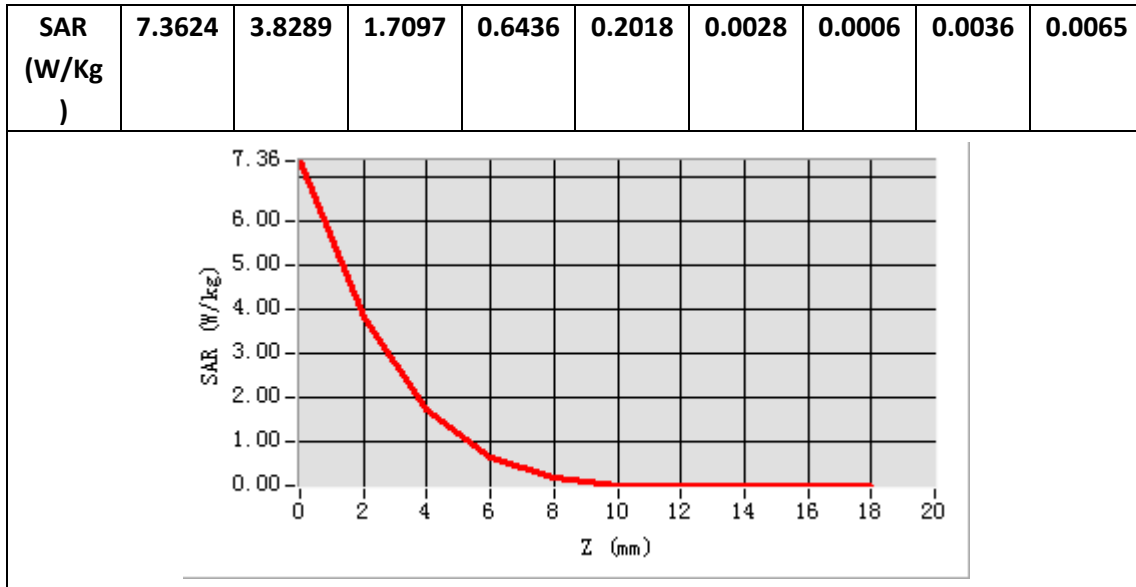


Maximum location: X=-8.00, Y=-11.00

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
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System Performance Check (Body, 5800MHz)

Type: Phone measurement

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

CCIC-SET/TRF:ISAR(2019-05-23)

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

Date of measurement: 02/27/2020

Measurement duration: 22 minutes 19 seconds

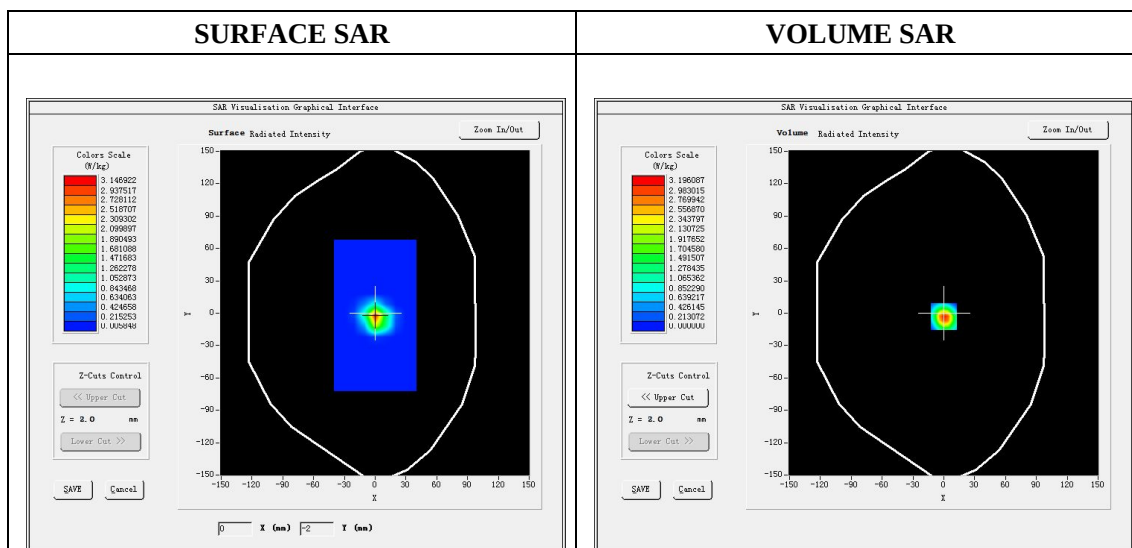
A. Experimental conditions.

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)	48.60
Relative permittivity	18.68
Conductivity (S/m)	6.02
Power drift (%)	
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
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