

Appendix A: SAR System performance Check Plots

Measurement	Liquid	Frequency	Test Date
System Check	Head	835	2019-06-20
System Check	Body	835	2019-06-20
System Check	Head	1800	2019-06-21
System Check	Body	1800	2019-06-21
System Check	Head	1900	2019-06-21
System Check	Body	1900	2019-06-21
System Check	Head	2450	2019-06-29
System Check	Body	2450	2019-06-29
System Check	Head	2600	2019-06-29
System Check	Body	2600	2019-06-29
System Check	Head	5200	2019-07-03
System Check	Body	5200	2019-07-03
System Check	Head	5400	2019-07-03
System Check	Body	5400	2019-07-03
System Check	Head	5600	2019-07-04
System Check	Body	5600	2019-07-04
System Check	Head	5800	2019-07-05
System Check	Body	5800	2019-07-05

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: 06/20/2019

Measurement duration: 22 minutes 08 seconds

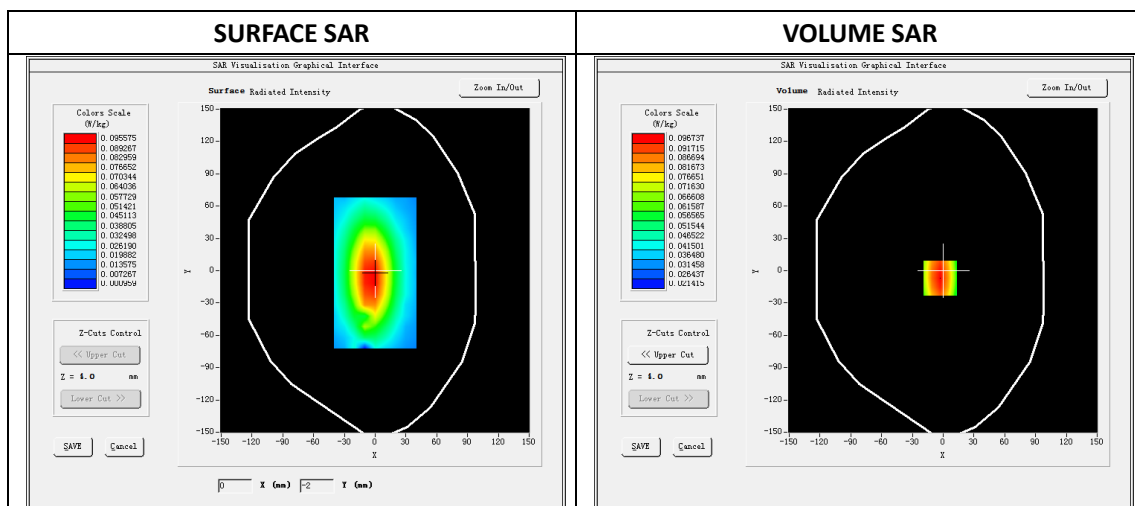
A. Experimental conditions.

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

B. SAR Measurement Results

Band SAR

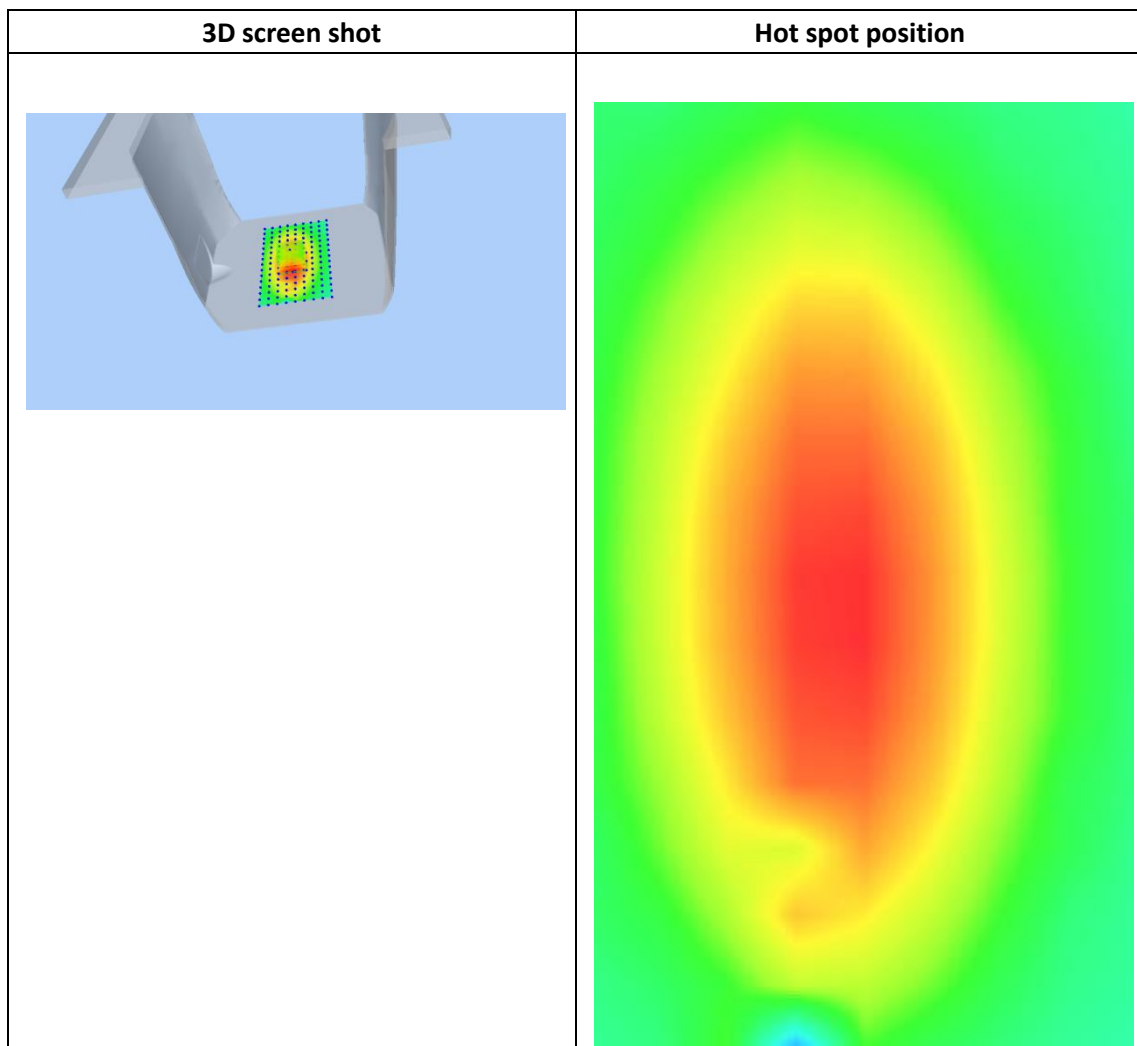
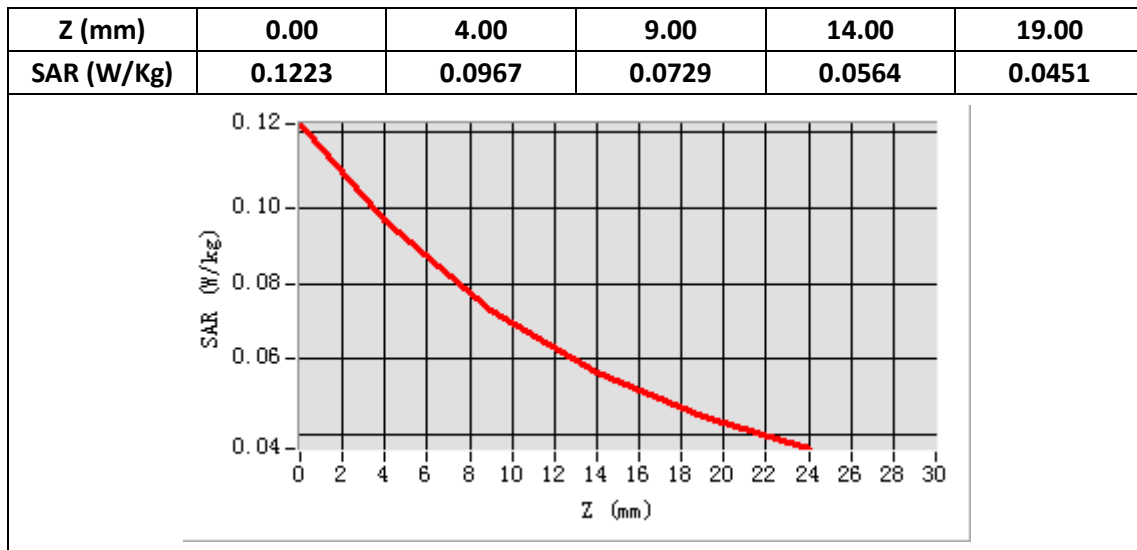
E-Field Probe	SATIMO SN_27/15_EPG0261
Frequency (MHz)	835
Relative permittivity (real part)	41.48
Relative permittivity	19.62
Conductivity (S/m)	0.91
Power drift (%)	-2.98
Ambient Temperature:	22.2°C
Liquid Temperature:	22.6°C
ConvF:	1.92
Crest factor:	1:1



Maximum location: X=-3.00, Y=-7.00

SAR Peak: 0.12 W/kg

SAR 10g (W/Kg)	0.067856
SAR 1g (W/Kg)	0.094280



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: 06/20/2019

Measurement duration: 22 minutes 02 seconds

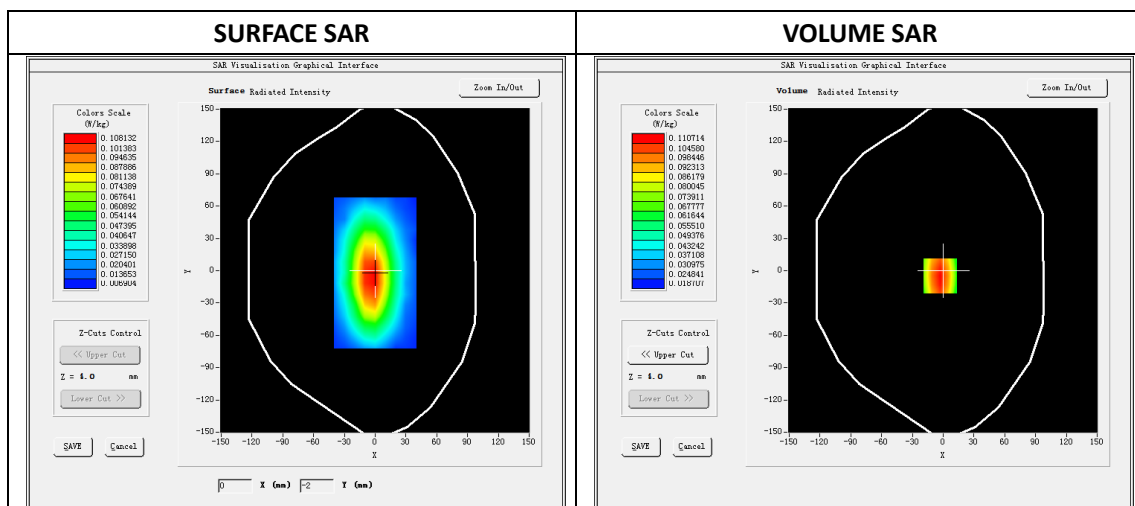
A. Experimental conditions.

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

B. SAR Measurement Results

Band SAR

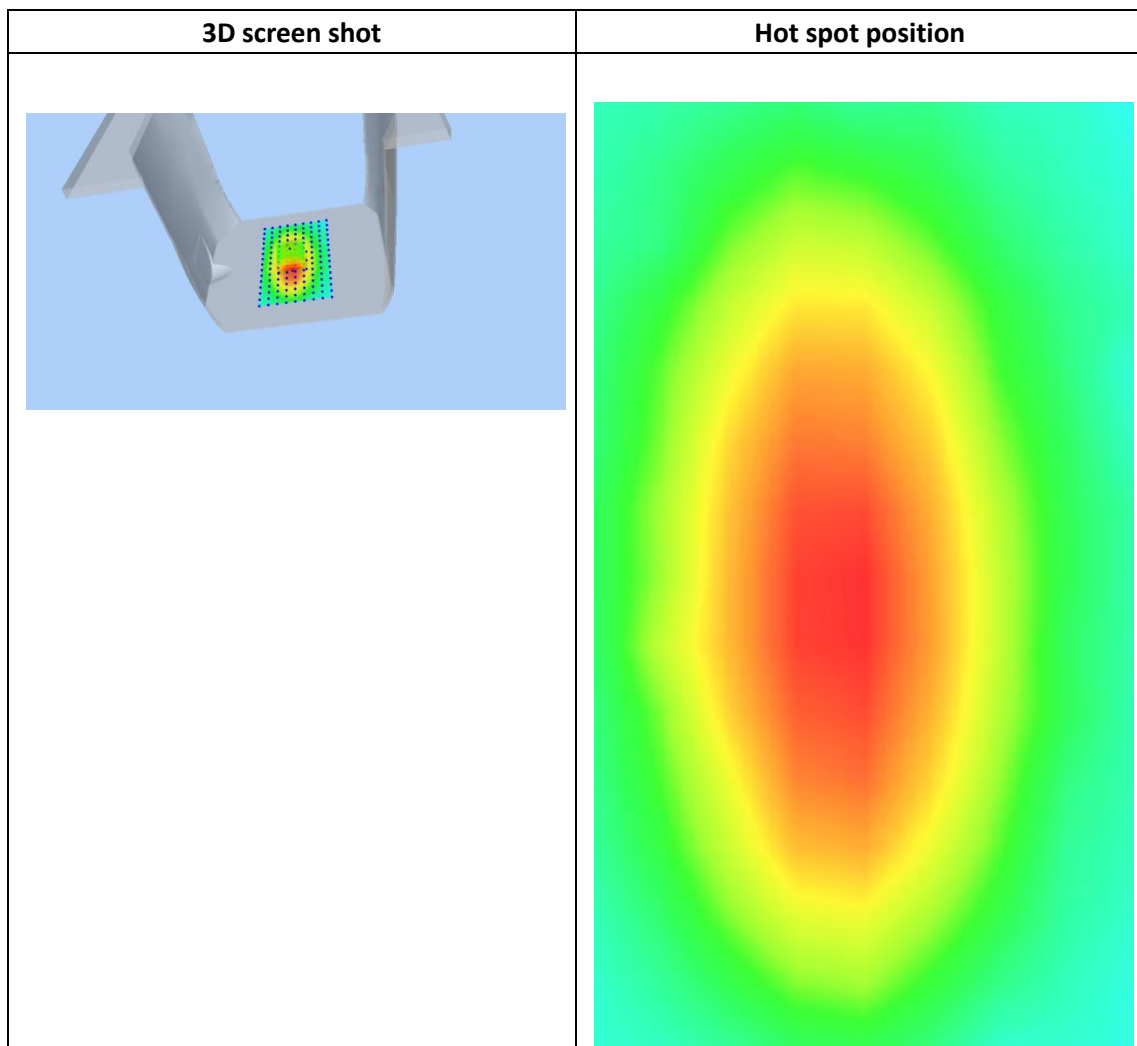
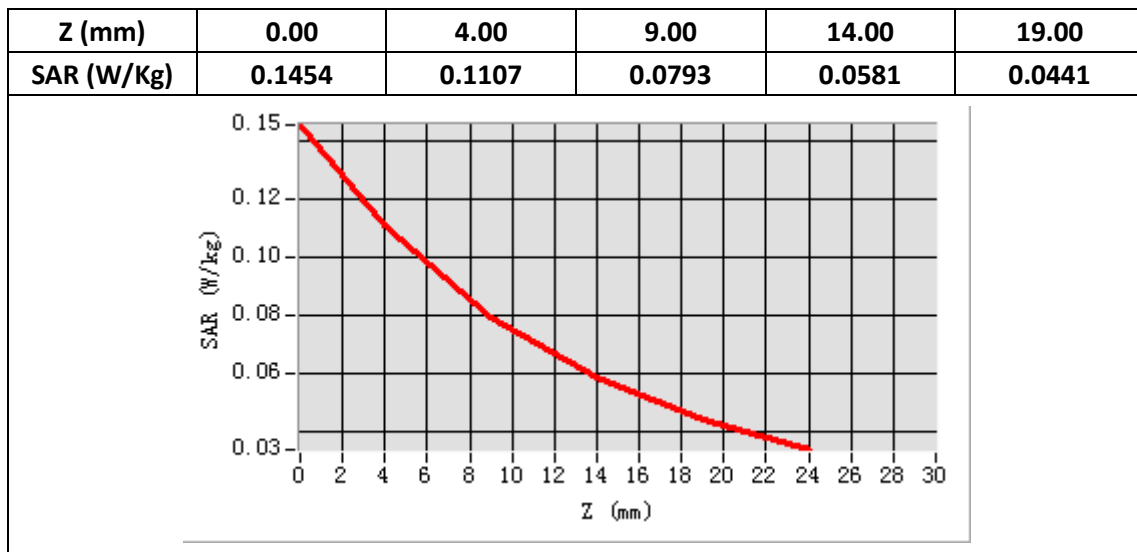
E-Field Probe	SATIMO SN_27/15_EPG0261
Frequency (MHz)	835
Relative permittivity (real part)	55.45
Relative permittivity	20.69
Conductivity (S/m)	0.96
Power drift (%)	-2.74
Ambient Temperature:	22.2°C
Liquid Temperature:	22.6°C
ConvF:	1.99
Crest factor:	1:1



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

SAR Peak: 0.15 W/kg

SAR 10g (W/Kg)	0.073436
SAR 1g (W/Kg)	0.107727



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: 06/21/2019

Measurement duration: 22 minutes 06 seconds

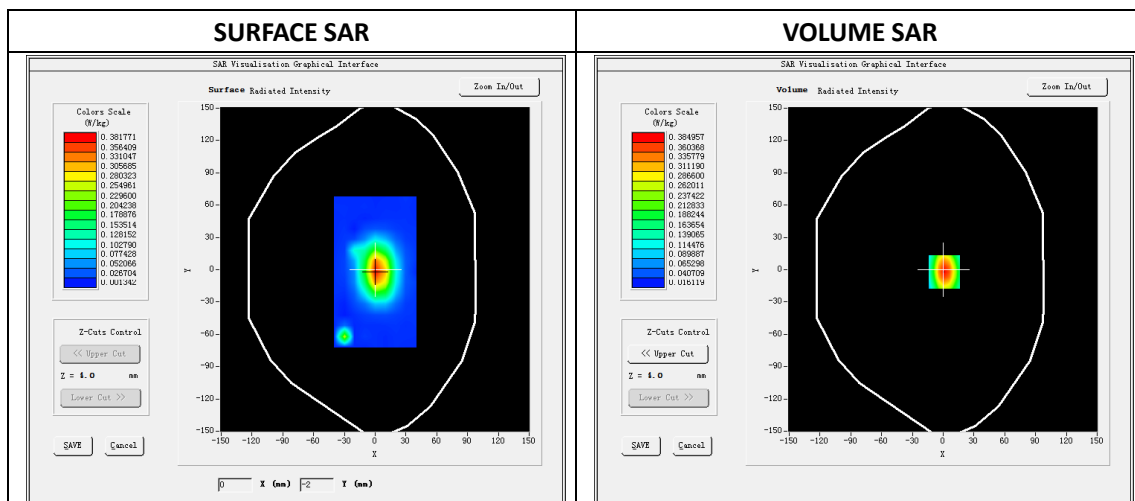
A. Experimental conditions.

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

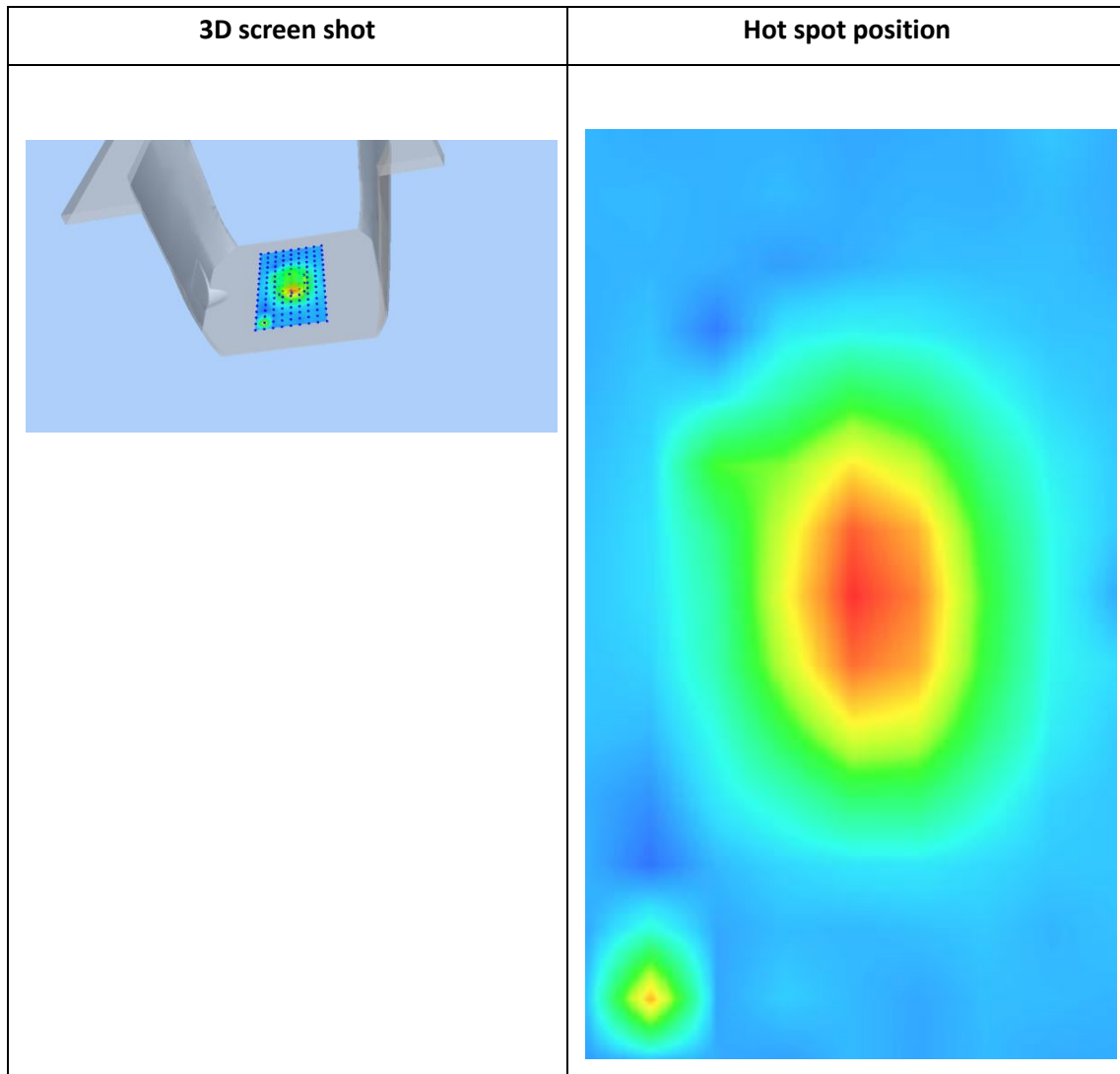
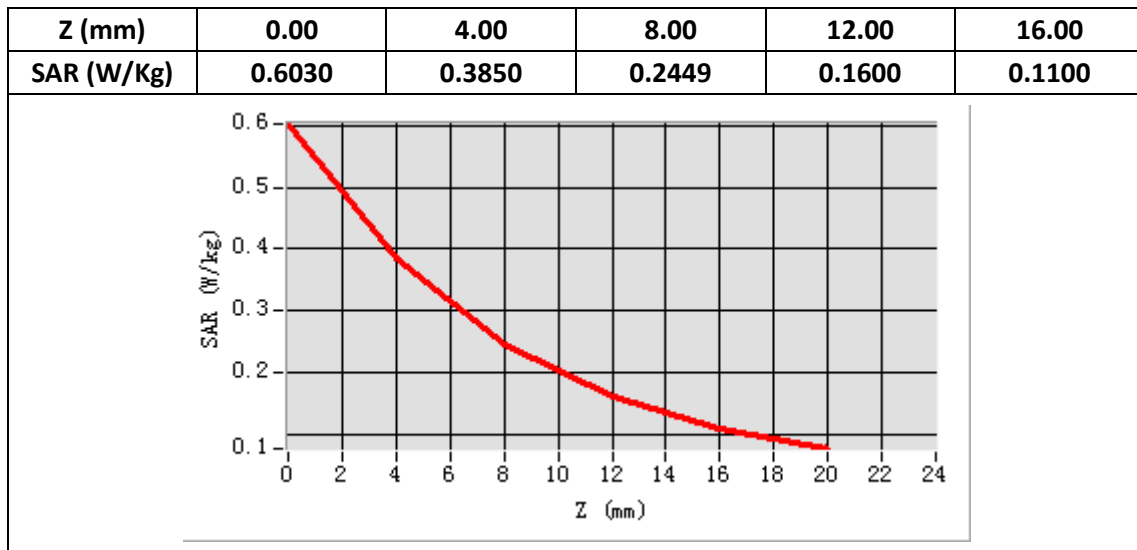
E-Field Probe	SATIMO SN_27/15_EPG0261
Frequency (MHz)	1800
Relative permittivity (real part)	40.41
Relative permittivity	14.40
Conductivity (S/m)	1.44
Power Drift (%)	-1.81
Ambient Temperature:	22.1°C
Liquid Temperature:	22.6°C
ConvF:	2.14
Duty factor:	1:1



Maximum location: X=1.00, Y=-2.00

SAR Peak: 0.60 W/kg

SAR 10g (W/Kg)	0.192321
SAR 1g (W/Kg)	0.358206



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: 06/21/2019

Measurement duration: 22 minutes 04 seconds

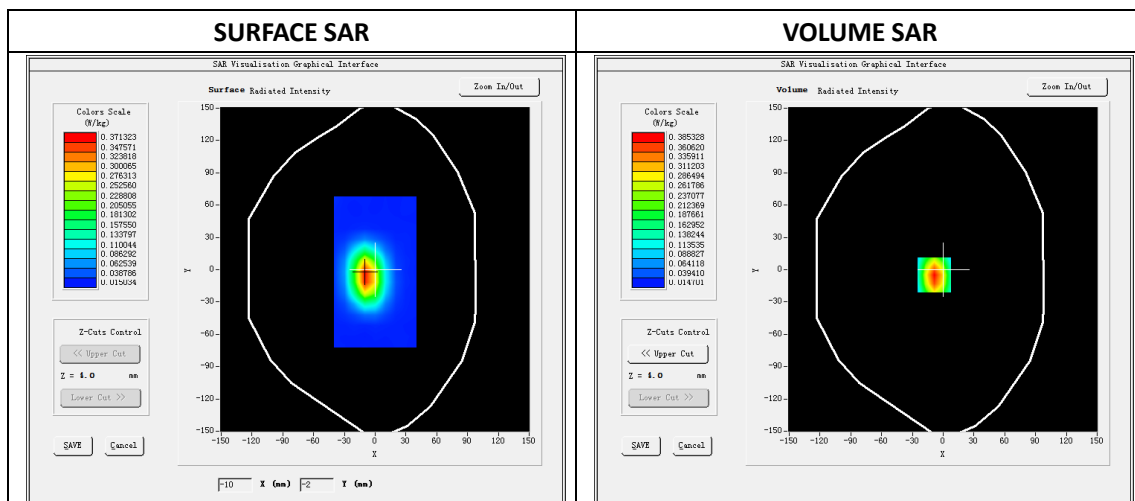
A. Experimental conditions.

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

B. SAR Measurement Results

Band SAR

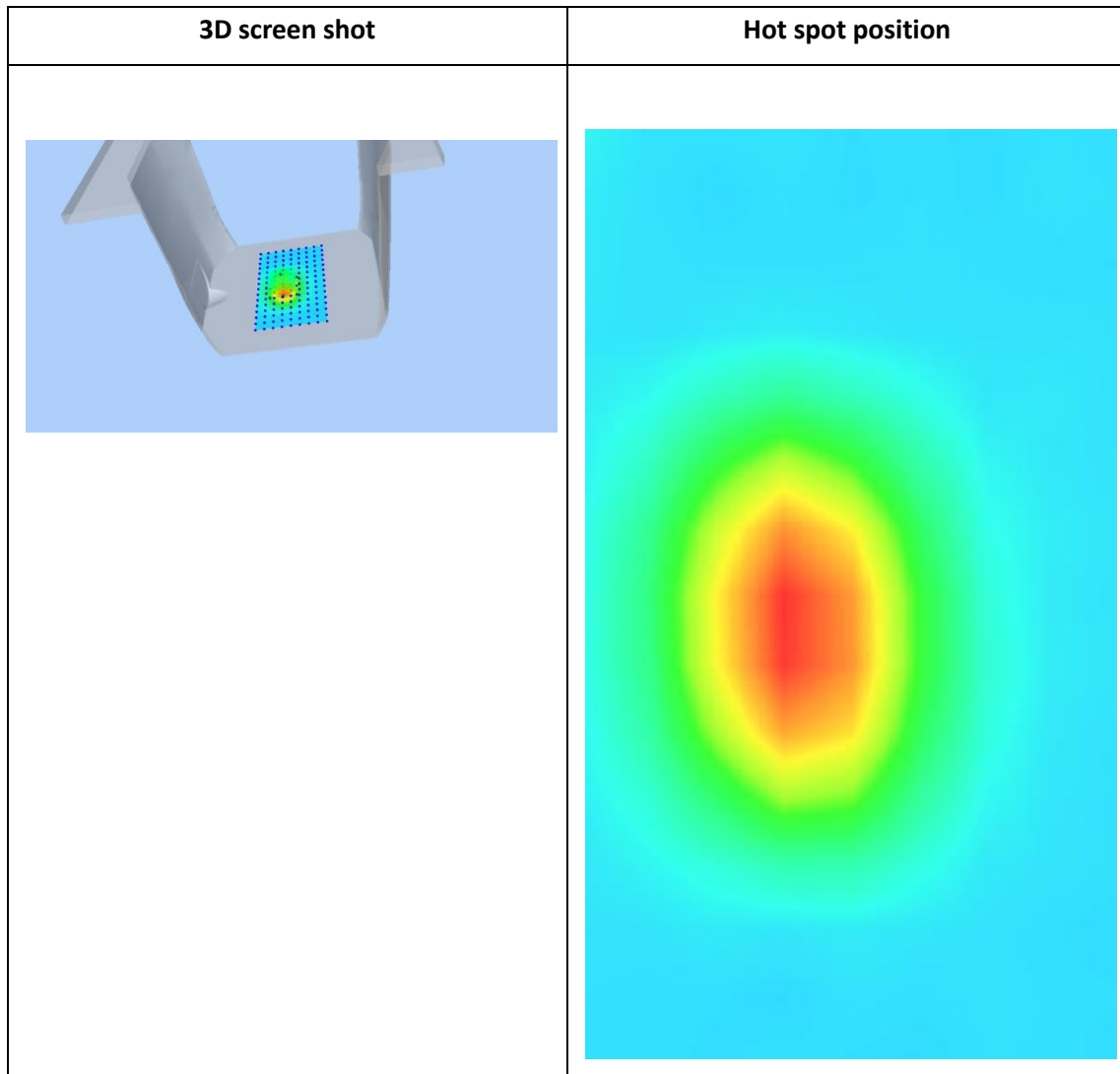
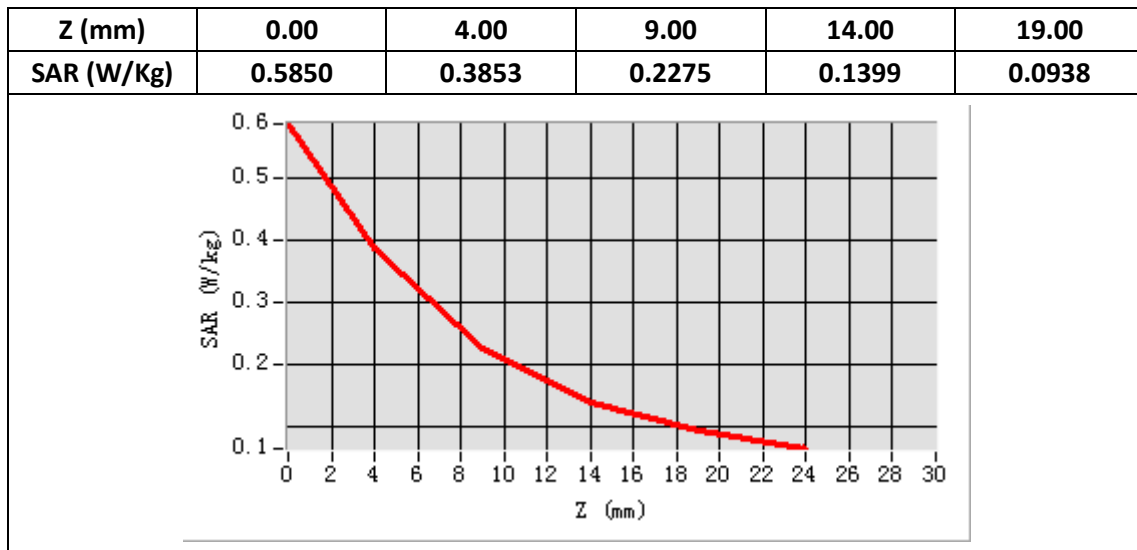
E-Field Probe	SATIMO SN_27/15_EPG0261
Frequency (MHz)	1800
Relative permittivity (real part)	53.36
Relative permittivity	15.20
Conductivity (S/m)	1.52
Power Drift (%)	-1.31
Ambient Temperature:	22.1°C
Liquid Temperature:	22.6°C
ConvF:	2.22
Duty factor:	1:1



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

SAR Peak: 0.59 W/kg

SAR 10g (W/Kg)	0.196303
SAR 1g (W/Kg)	0.356727



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: 06/21/2019

Measurement duration: 22 minutes 07 seconds

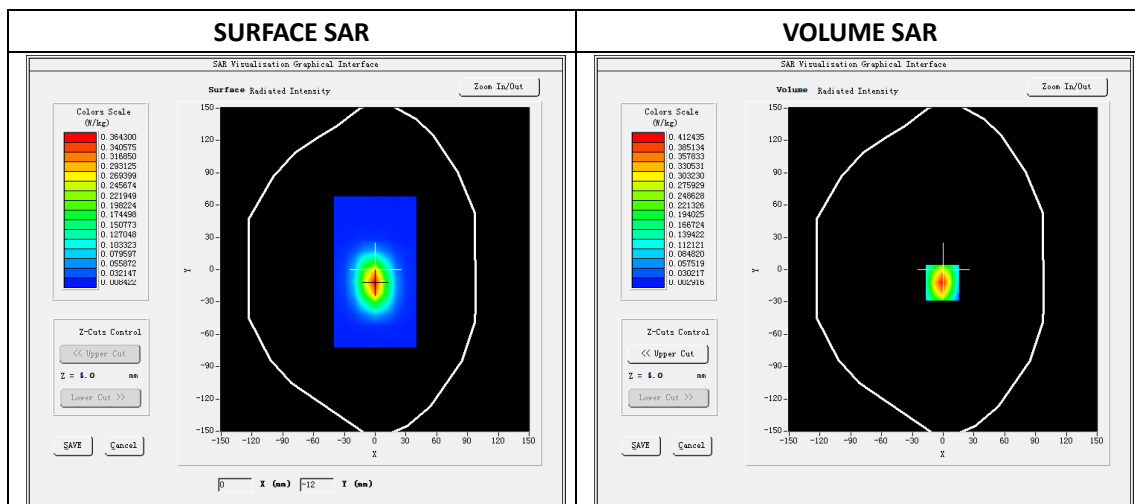
A. Experimental conditions.

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

B. SAR Measurement Results

Band SAR

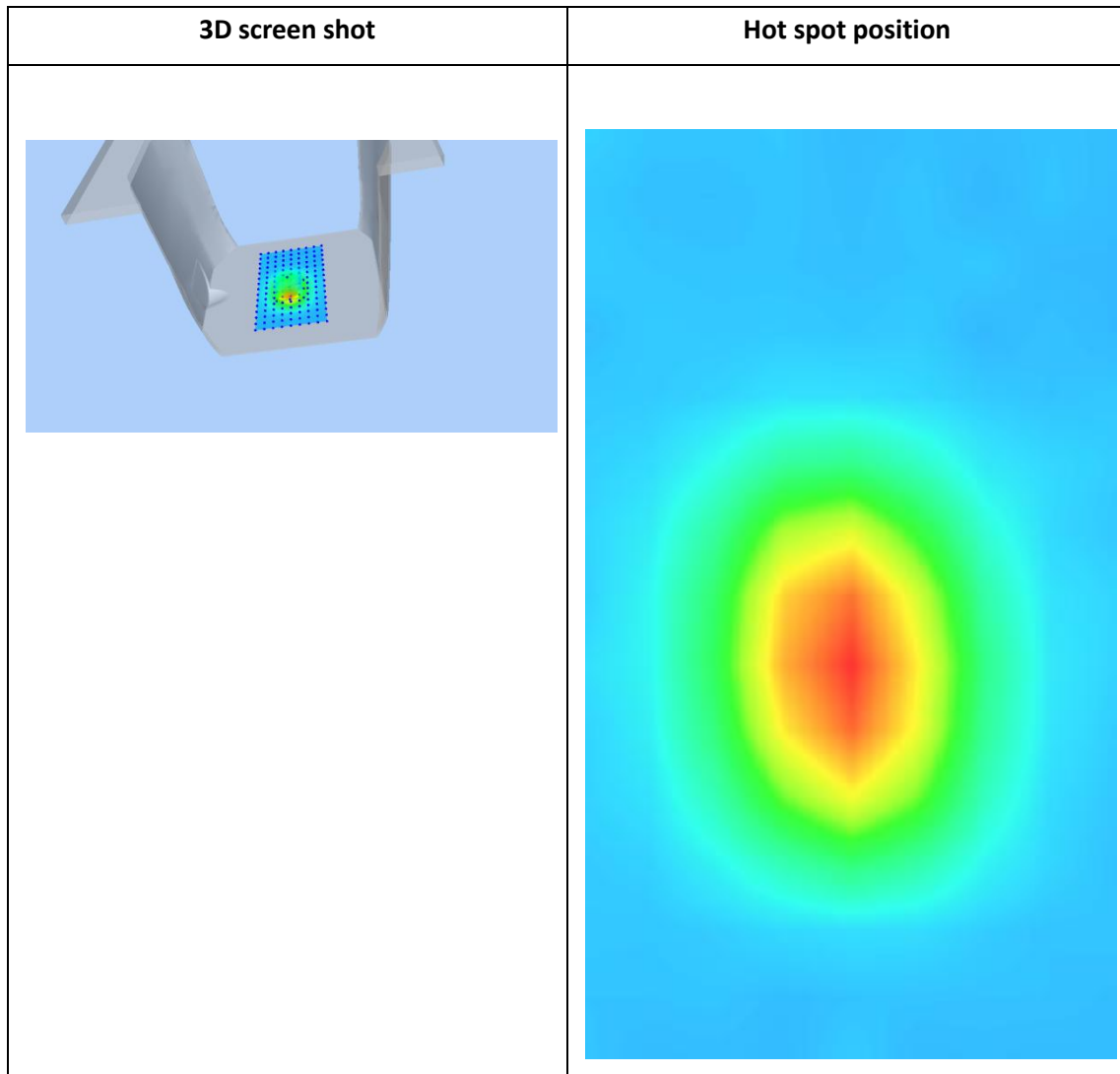
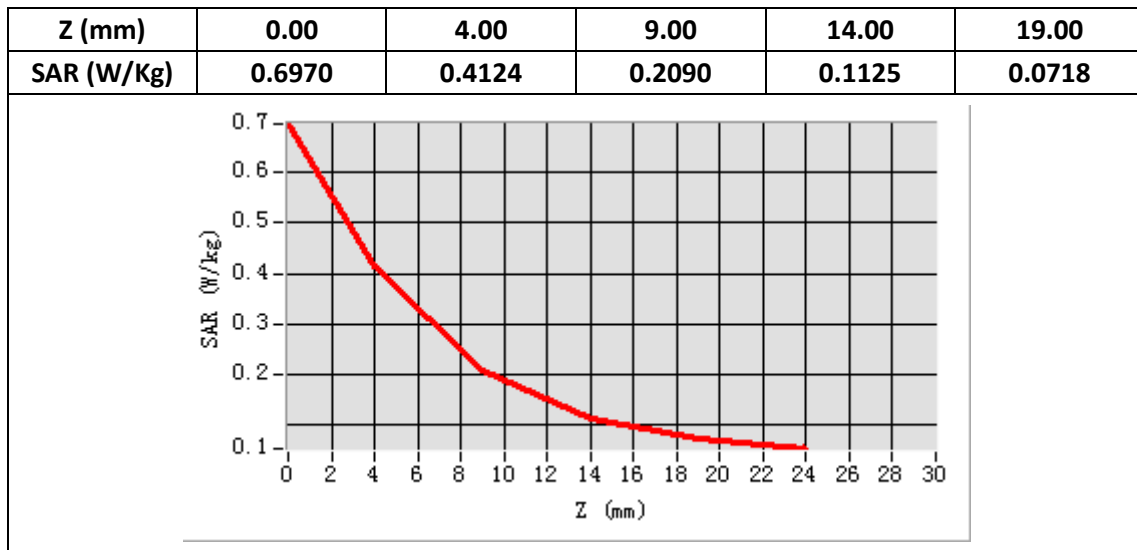
E-Field Probe	SATIMO SN_27/15_EPG0261
Frequency (MHz)	1900
Relative permittivity (real part)	40.21
Relative permittivity	13.36
Conductivity (S/m)	1.41
Power Drift (%)	2.75
Ambient Temperature:	22.1°C
Liquid Temperature:	22.6°C
ConvF:	2.34
Duty factor:	1:1



Maximum location: X=-1.00, Y=-12.00

SAR Peak: 0.70 W/kg

SAR 10g (W/Kg)	0.185740
SAR 1g (W/Kg)	0.379724



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: 06/21/2019

Measurement duration: 22 minutes 12 seconds

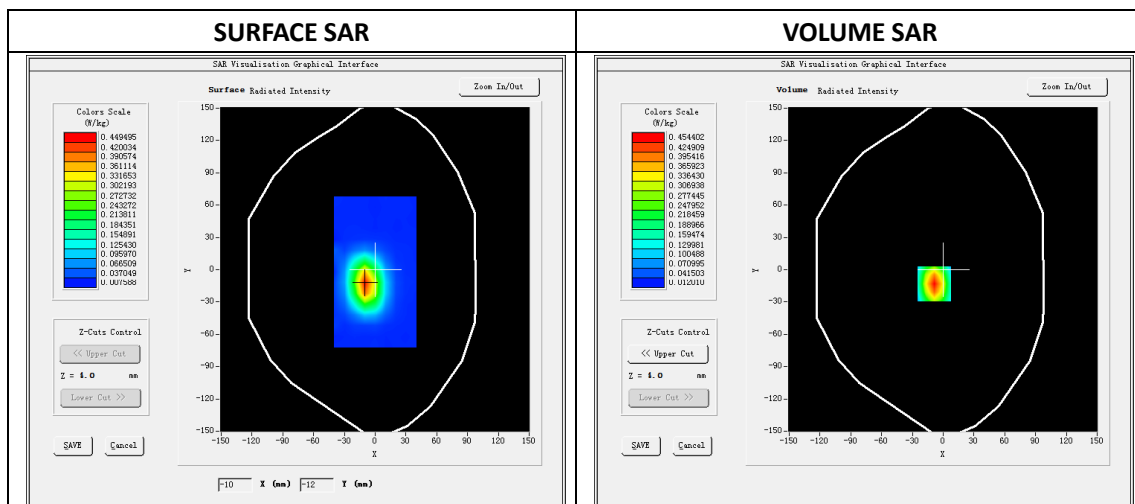
A. Experimental conditions.

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

B. SAR Measurement Results

Band SAR

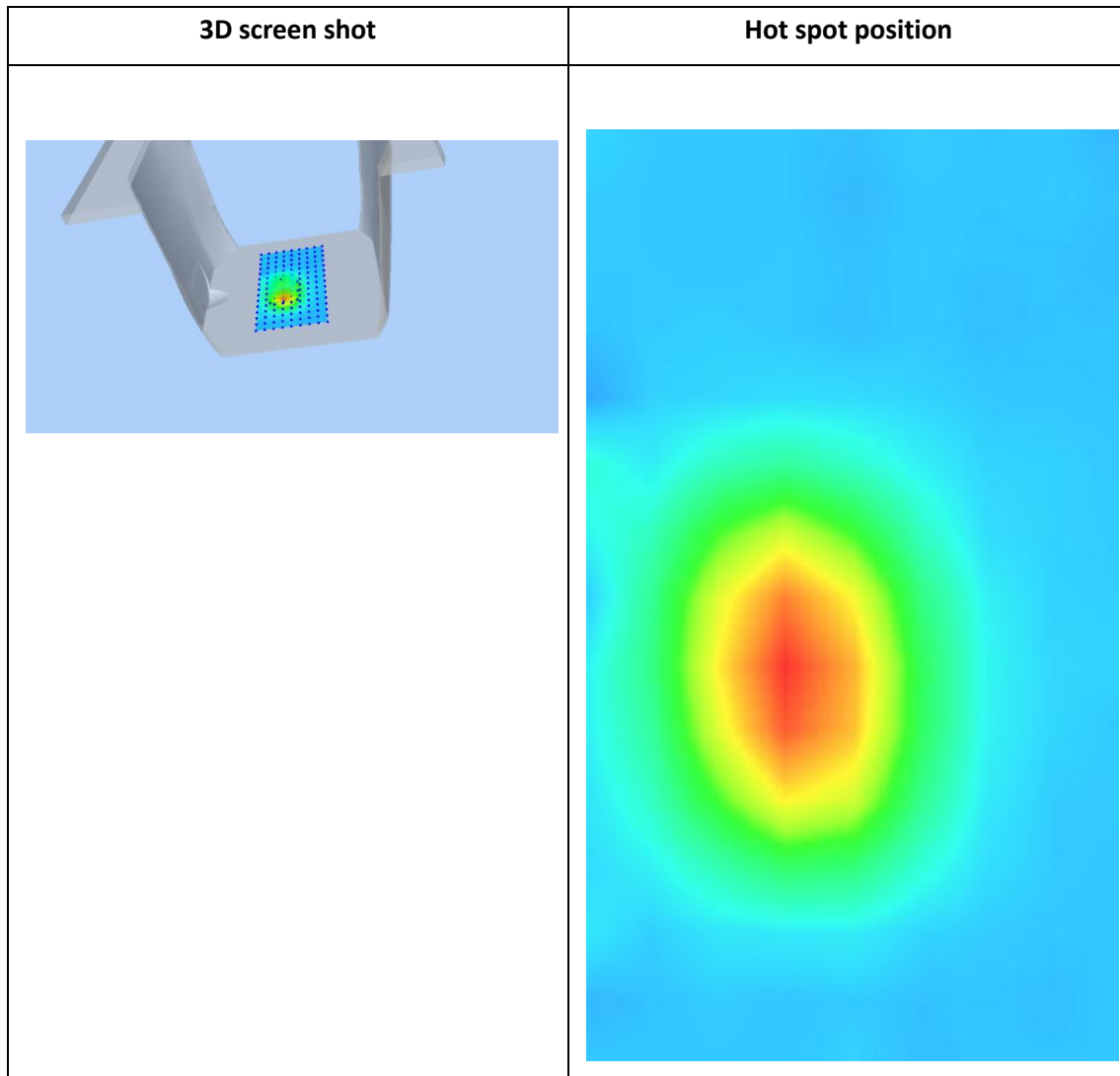
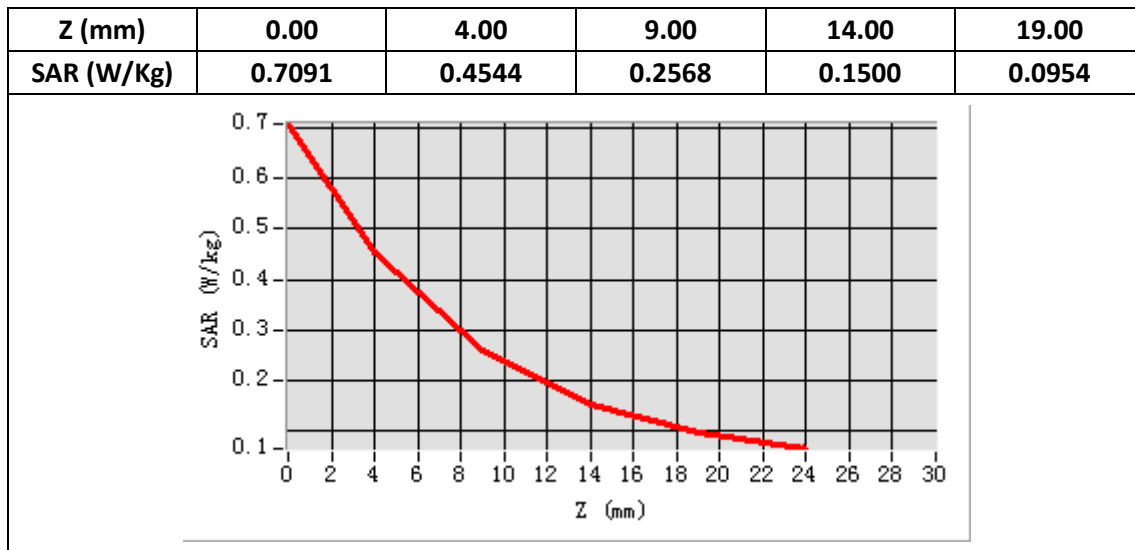
E-Field Probe	SATIMO SN_27/15_EPG0261
Frequency (MHz)	1900
Relative permittivity (real part)	53.11
Relative permittivity	14.31
Conductivity (S/m)	1.51
Power Drift (%)	-1.21
Ambient Temperature:	22.1°C
Liquid Temperature:	22.6°C
ConvF:	2.39
Duty factor:	1:1



Maximum location: X=-9.00, Y=-13.00

SAR Peak: 0.71 W/kg

SAR 10g (W/Kg)	0.219364
SAR 1g (W/Kg)	0.419073



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: 06/29/2019

Measurement duration: 22 minutes 03 seconds

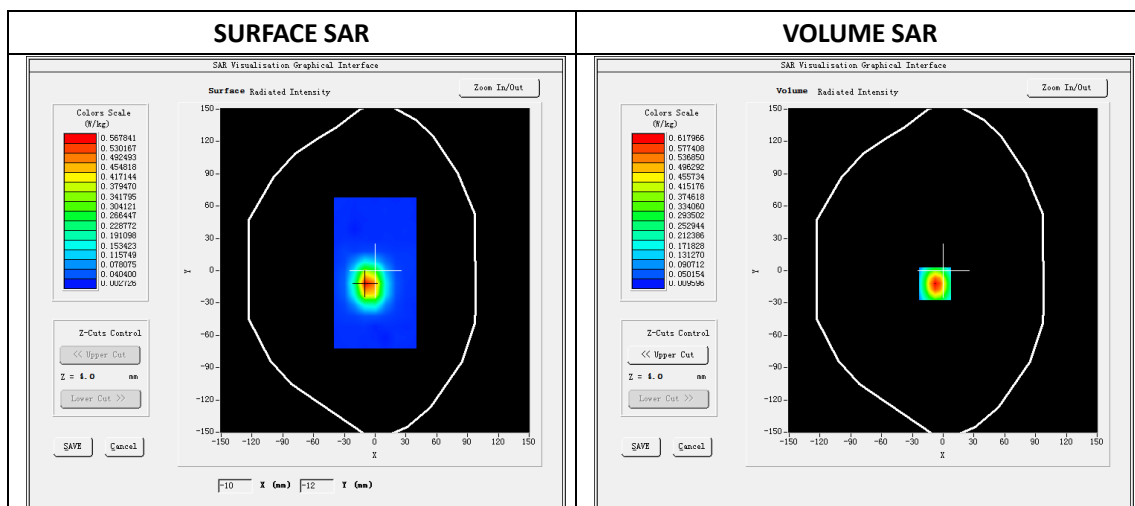
A. Experimental conditions.

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

B. SAR Measurement Results

Band SAR

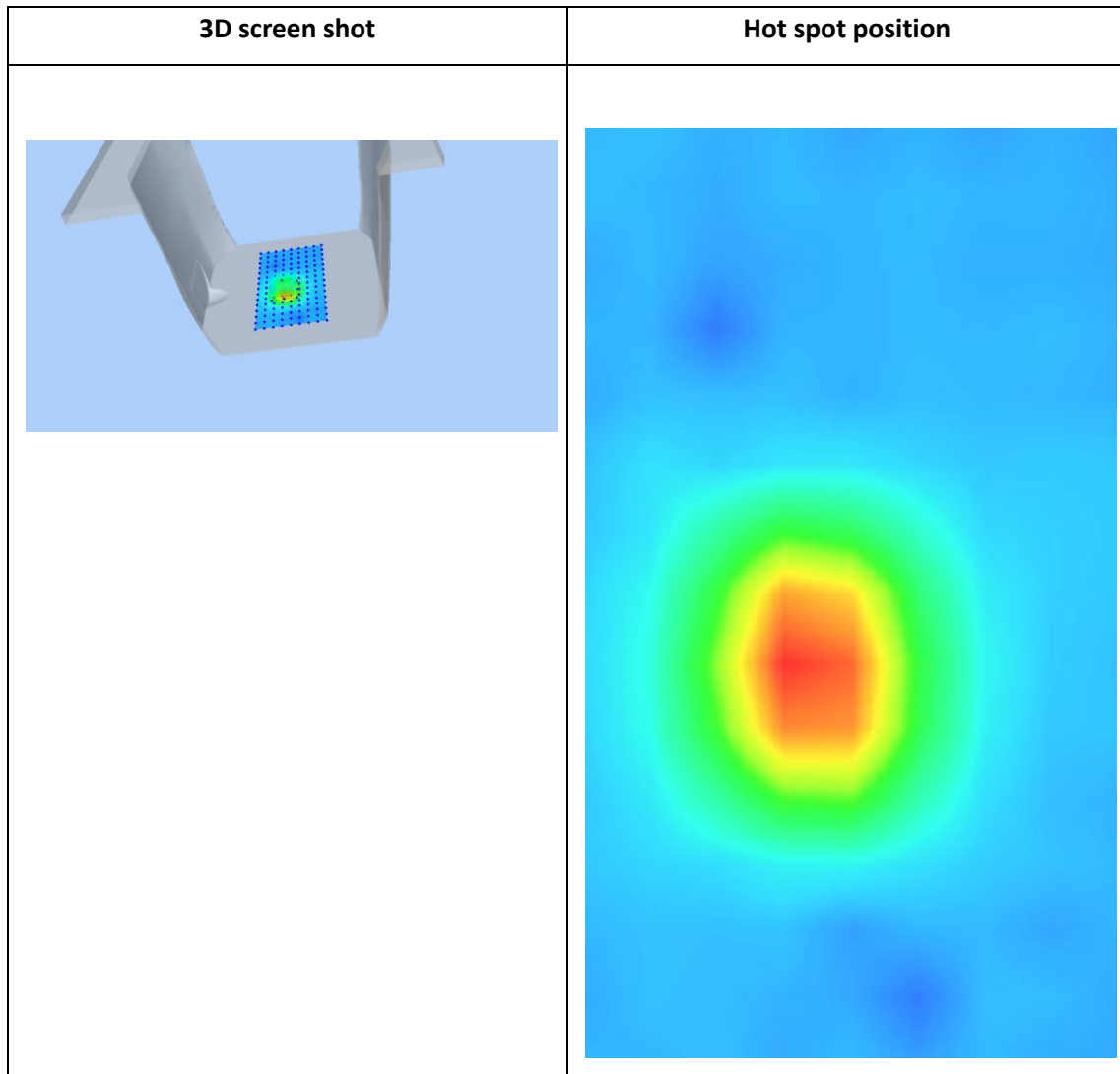
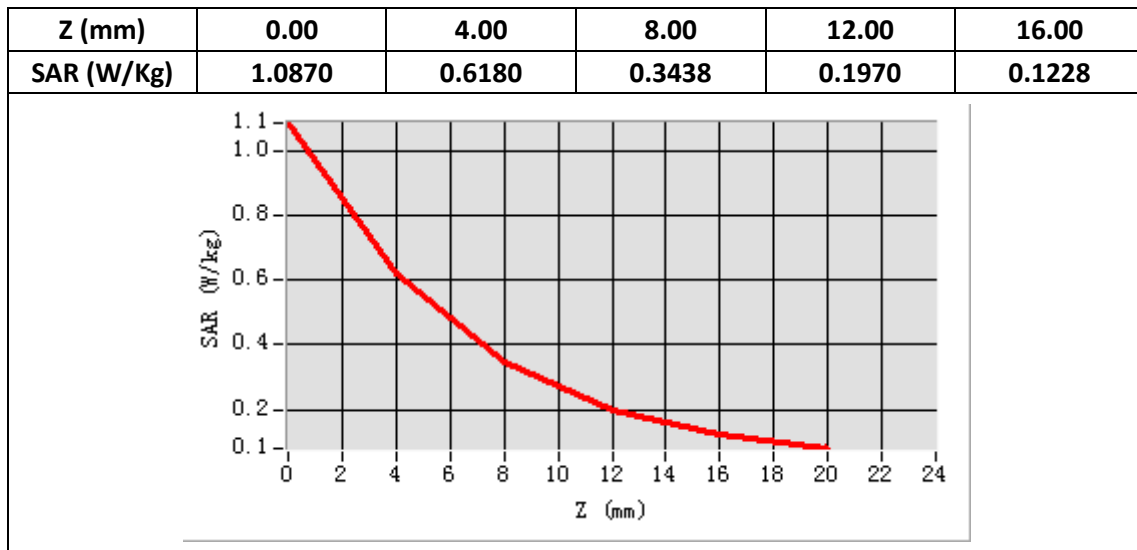
E-Field Probe	SATIMO SN_27/15_EPG0261
Frequency (MHz)	2450
Relative permittivity (real part)	39.59
Relative permittivity	13.37
Conductivity (S/m)	1.82
Power Drift (%)	-0.03
Ambient Temperature:	22.1°C
Liquid Temperature:	22.6°C
ConvF:	2.37
Duty factor:	1:1



Maximum location: X=-8.00, Y=-12.00

SAR Peak: 1.09 W/kg

SAR 10g (W/Kg)	0.260051
SAR 1g (W/Kg)	0.557463



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: 06/29/2019

Measurement duration: 22 minutes 16 seconds

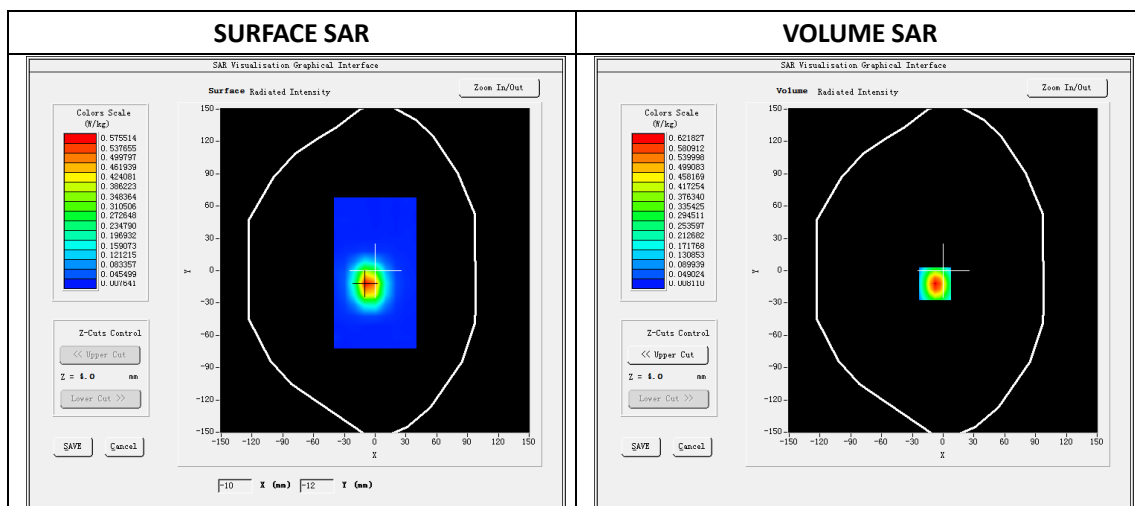
A. Experimental conditions.

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

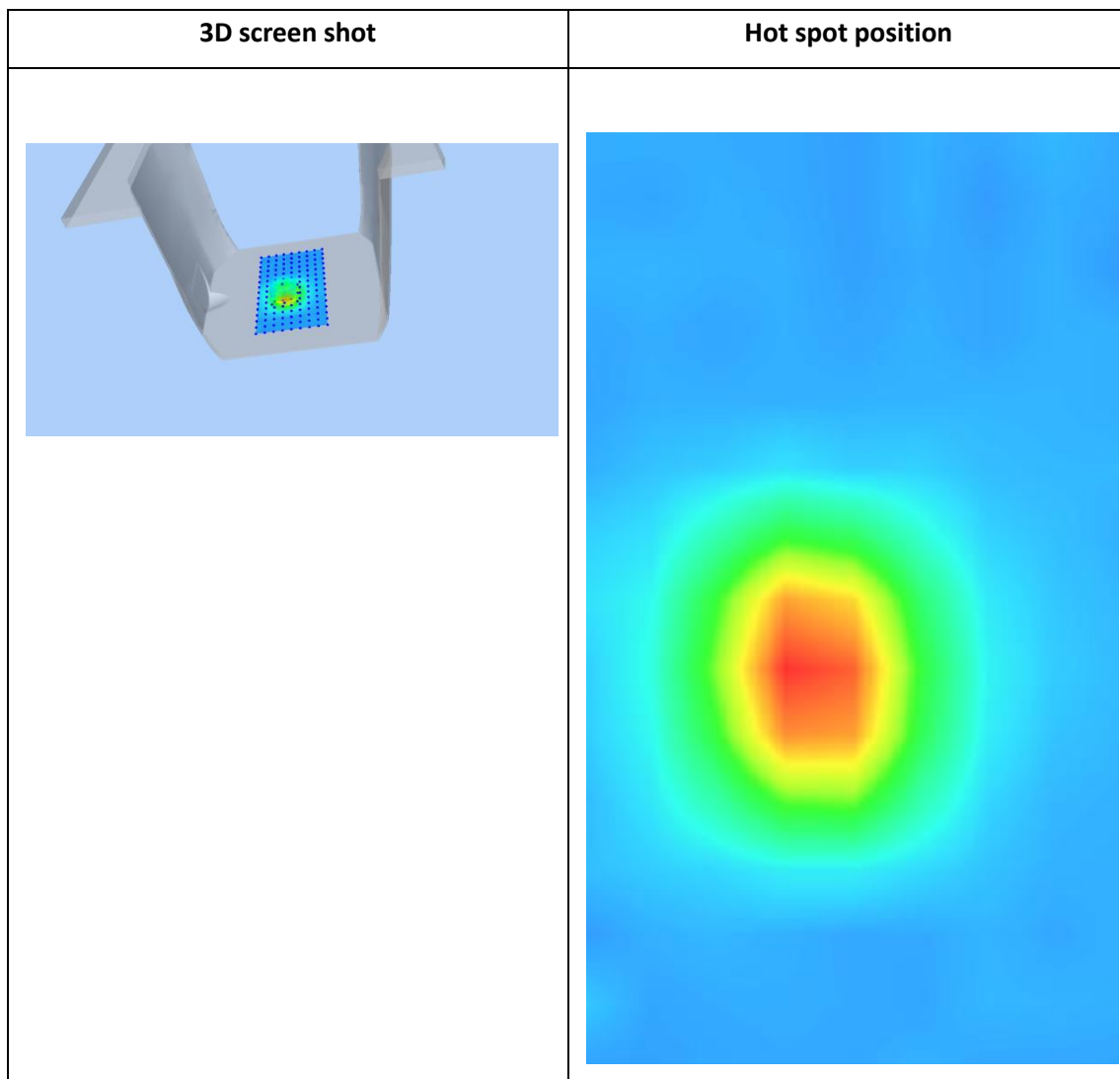
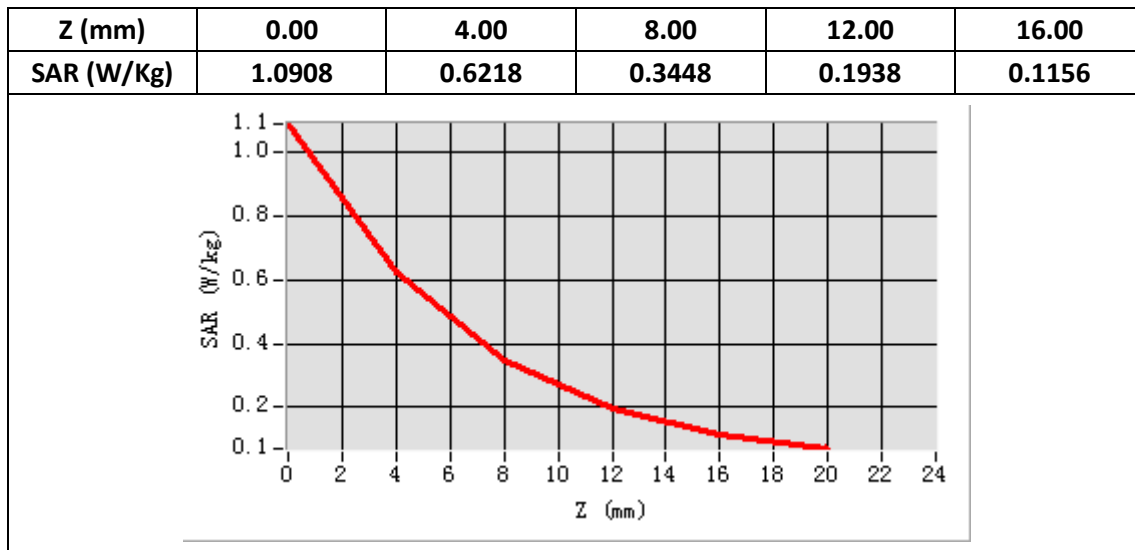
E-Field Probe	SATIMO SN_27/15_EPG0261
Frequency (MHz)	2450
Relative permittivity (real part)	52.72
Relative permittivity	14.47
Conductivity (S/m)	1.97
Power Drift (%)	-1.25
Ambient Temperature:	22.1°C
Liquid Temperature:	22.6°C
ConvF:	2.46
Duty factor:	1:1



Maximum location: X=-8.00, Y=-12.00

SAR Peak: 1.09 W/kg

SAR 10g (W/Kg)	0.258919
SAR 1g (W/Kg)	0.565325



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: 06/29/2019

Measurement duration: 22 minutes 08 seconds

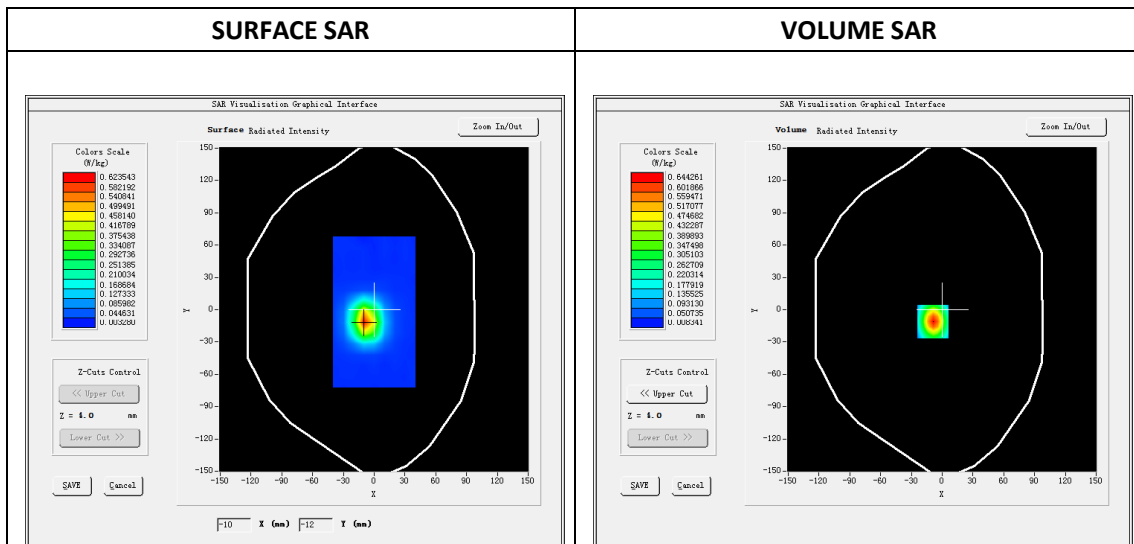
A. Experimental conditions.

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

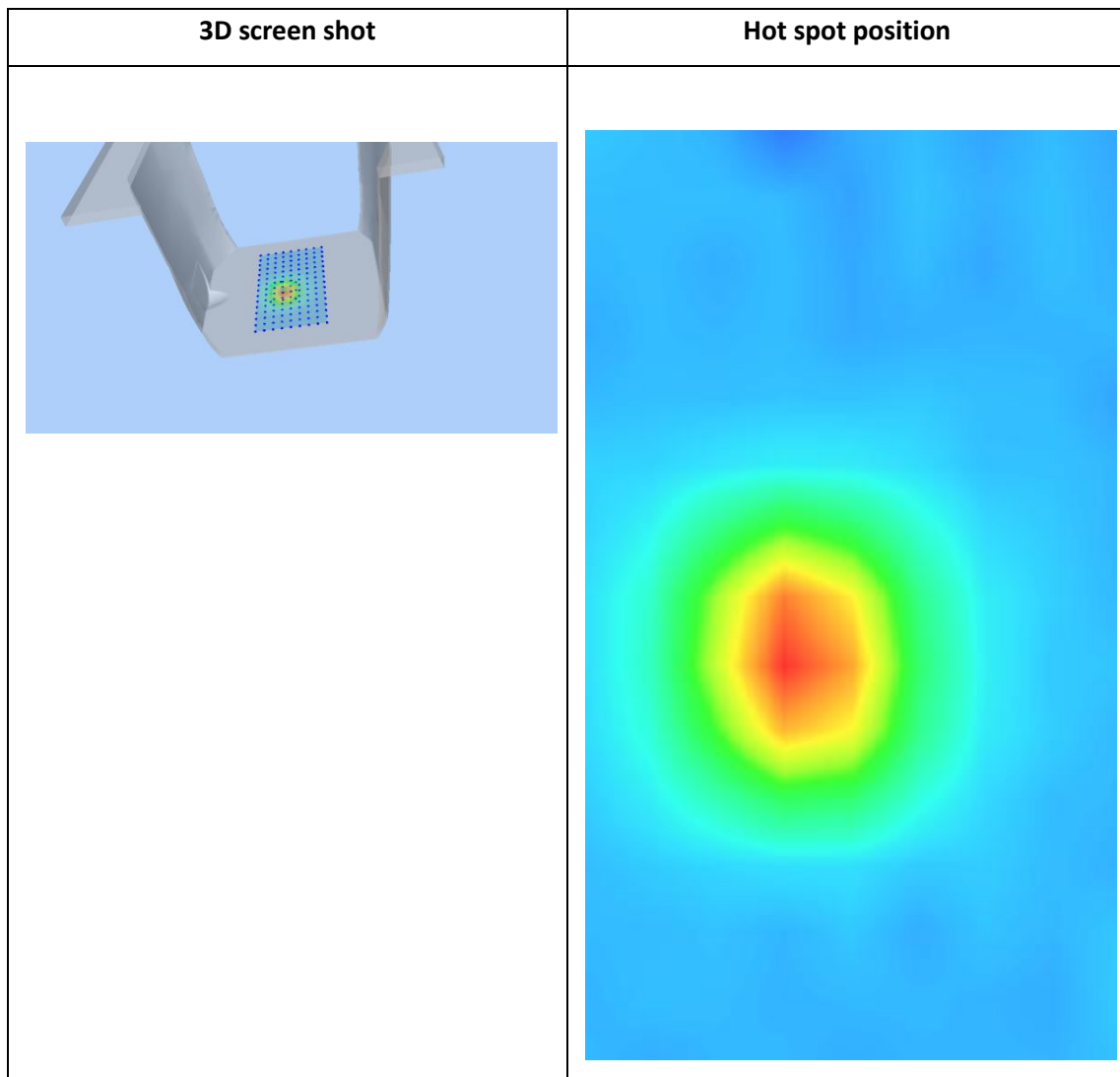
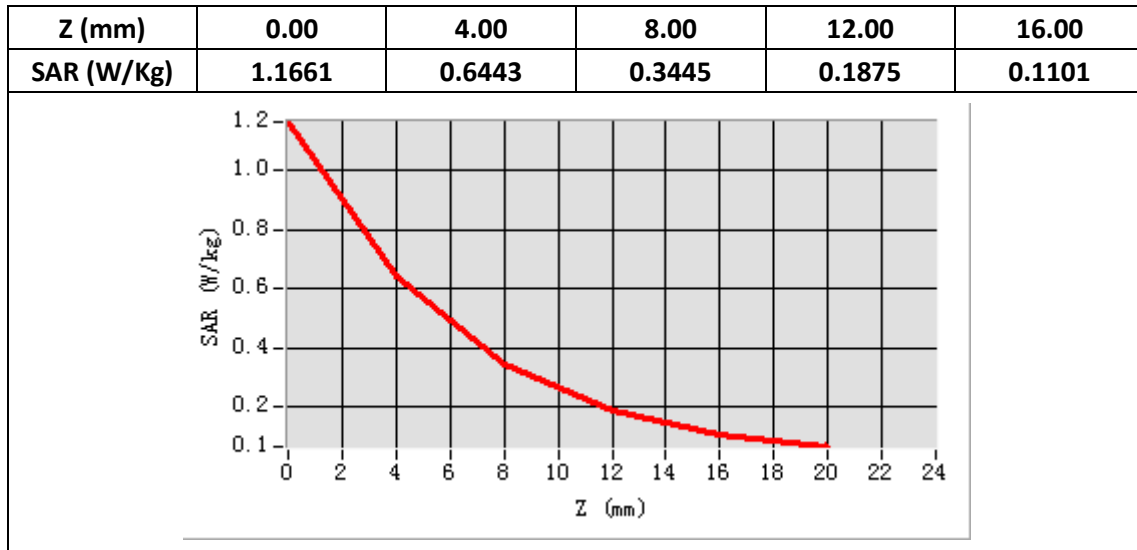
E-Field Probe	SATIMO SN_27/15_EPG0261
Frequency (MHz)	2600
Relative permittivity (real part)	39.34
Relative permittivity	13.36
Conductivity (S/m)	1.93
Power drift (%)	-1.25
Ambient Temperature:	22.2°C
Liquid Temperature:	22.5°C
Crest factor:	1:1
ConvF:	2.35



Maximum location: X=-9.00, Y=-11.00

SAR Peak: 1.16 W/kg

SAR 10g (W/Kg)	0.261952
SAR 1g (W/Kg)	0.580169



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: 06/29/2019

Measurement duration: 22 minutes 09 seconds

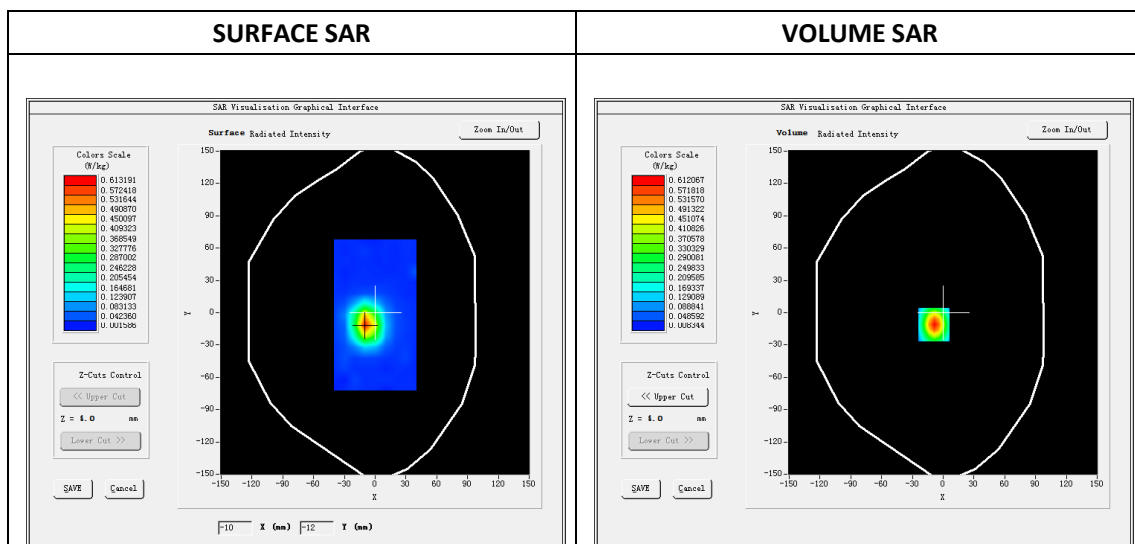
A. Experimental conditions.

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

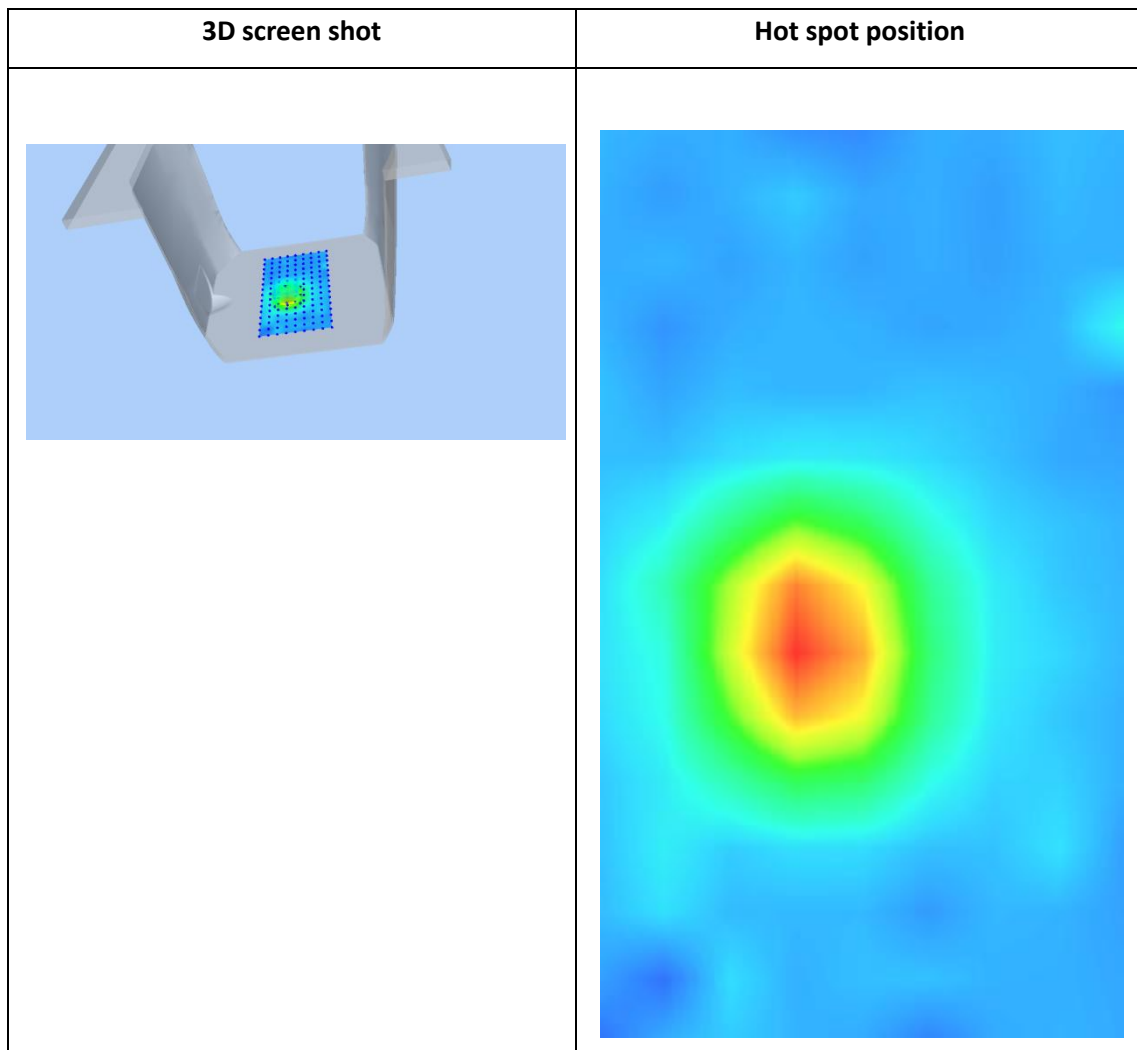
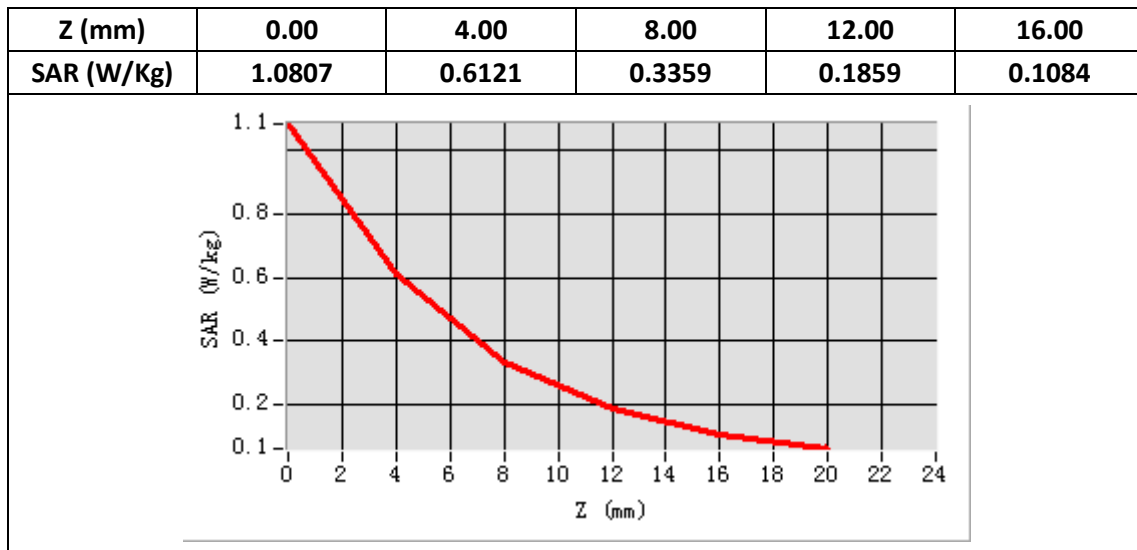
E-Field Probe	SATIMO SN_27/15_EPG0261
Frequency (MHz)	2600
Relative permittivity (real part)	52.41
Relative permittivity	14.95
Conductivity (S/m)	2.16
Power drift (%)	-0.64
Ambient Temperature:	22.2°C
Liquid Temperature:	22.5°C
Crest factor:	1:1
ConvF:	2.43



Maximum location: X=-9.00, Y=-11.00

SAR Peak: 1.08 W/kg

SAR 10g (W/Kg)	0.249427
SAR 1g (W/Kg)	0.550770



System Performance Check (Head, 5200MHz)

Type: Phone measurement

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

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

Date of measurement: 07/03/2019

Measurement duration: 22 minutes 15 seconds

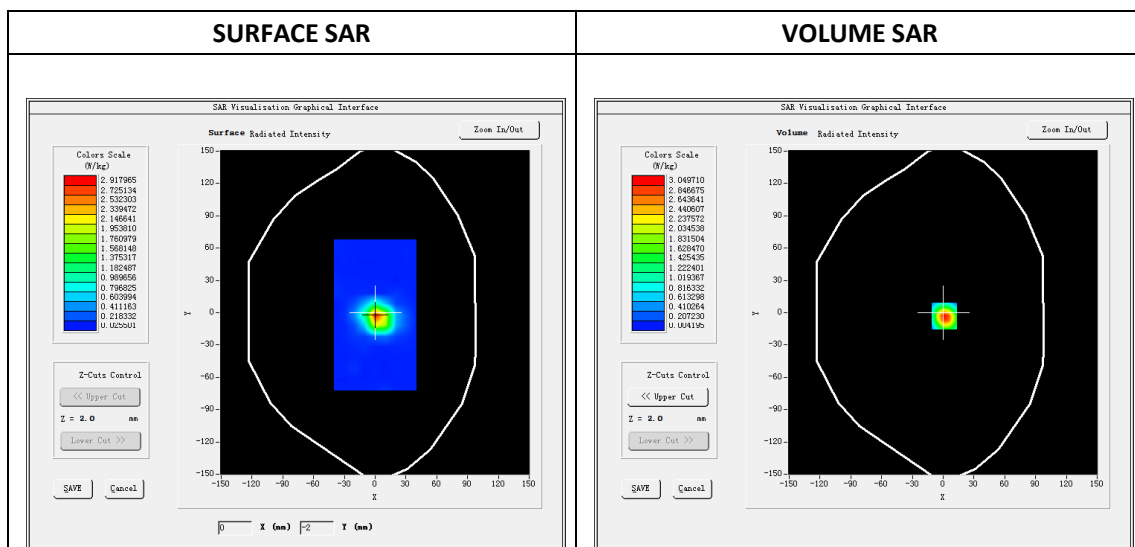
A. Experimental conditions.

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)	36.33
Relative permittivity	16.86
Conductivity (S/m)	4.87
Power drift (%)	-1.25
Ambient Temperature:	22.2°C
Liquid Temperature:	22.5°C
Crest factor:	1:1
ConvF:	2.15

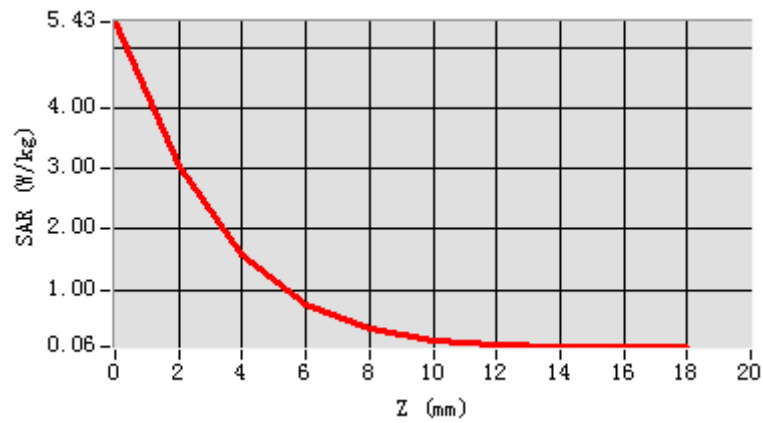


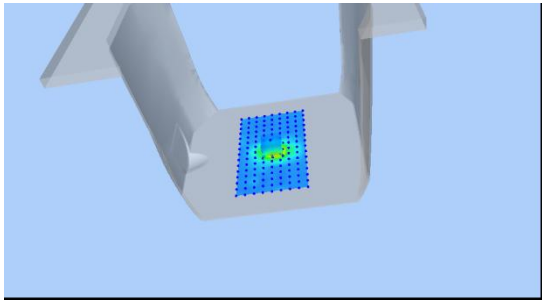
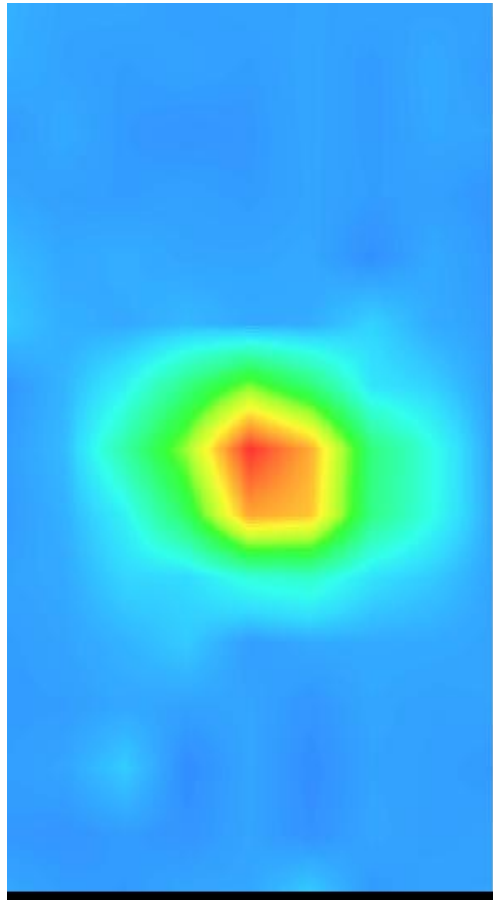
Maximum location: X=1.00, Y=-3.00

SAR Peak: 5.70W/kg

SAR 10g (W/Kg)	0.515913
SAR 1g (W/Kg)	1.680523

Z (mm)	0.00	2.00	4.00	6.00	8.00	10.00	12.00	14.00	16.00
SAR (W/Kg)	5.4316	3.0497	1.5763	0.7564	0.3541	0.1707	0.0932	0.0641	0.0566



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=5mm, dy=5mm, dz=4mm

Date of measurement: 07/03/2019

Measurement duration: 22 minutes 26 seconds

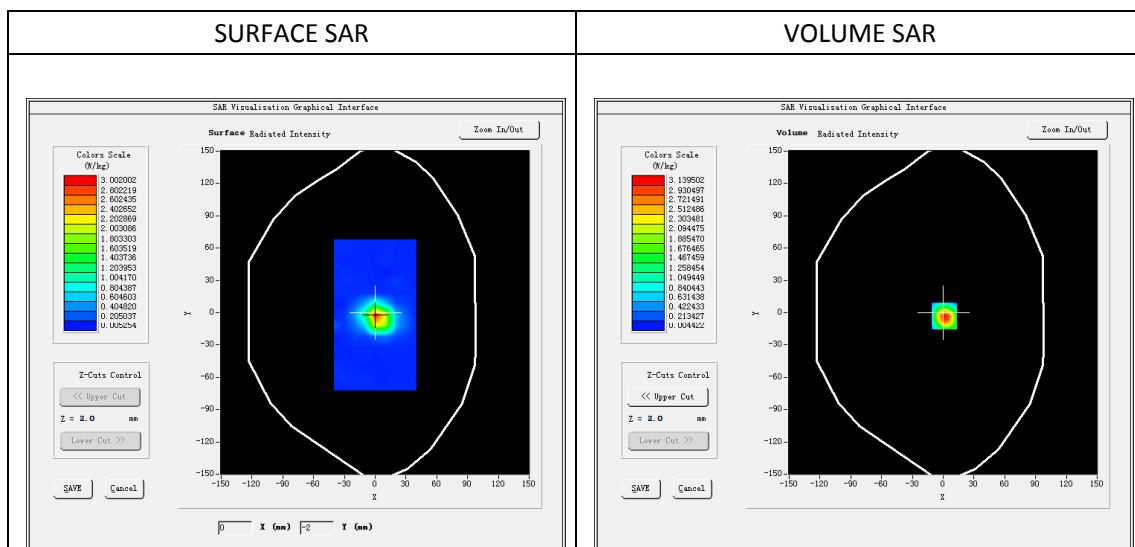
A. Experimental conditions.

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)	49.26
Relative permittivity	18.42
Conductivity (S/m)	5.32
Power drift (%)	-1.37
Ambient Temperature:	22.2°C
Liquid Temperature:	22.5°C
Crest factor:	1:1
ConvF:	2.21

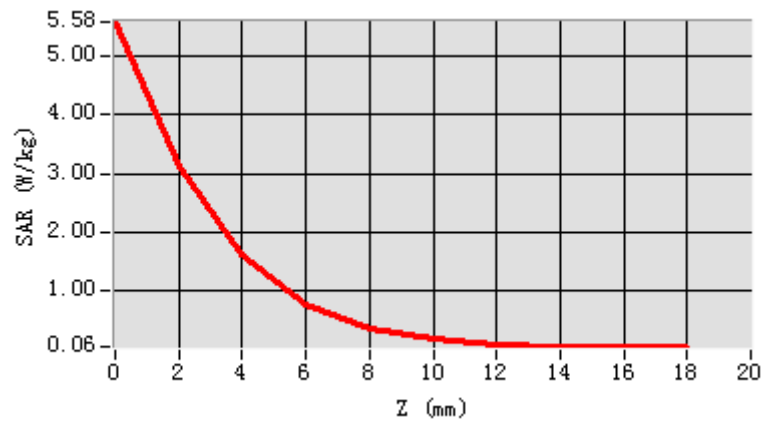


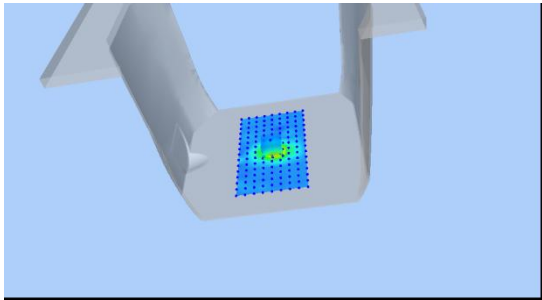
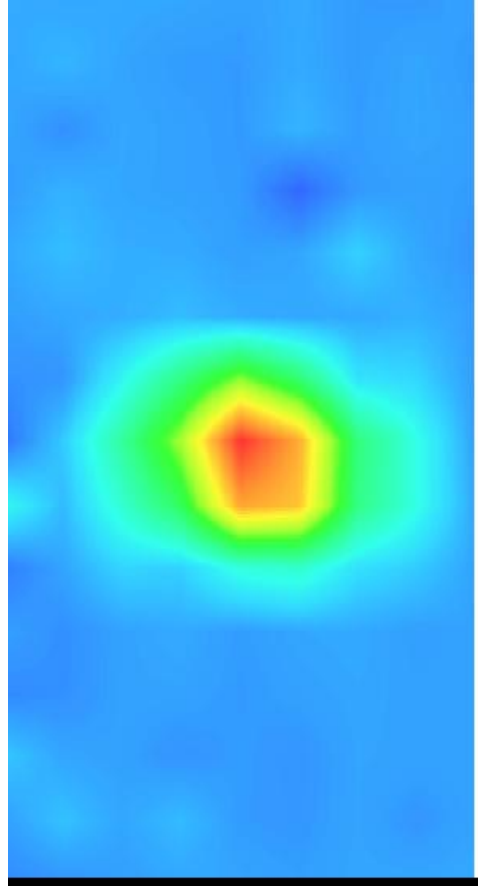
Maximum location: X=1.00, Y=-3.00

SAR Peak: 5.86 W/kg

SAR 10g (W/Kg)	0.524867
SAR 1g (W/Kg)	1.706266

Z (mm)	0.00	2.00	4.00	6.00	8.00	10.00	12.00	14.00	16.00
SAR (W/Kg)	5.5764	3.1395	1.6296	0.7868	0.3713	0.1806	0.0994	0.0684	0.0600



3D screen shot	Hot spot position
	

System Performance Check (Head, 5400MHz)

Type: Phone measurement

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

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

Date of measurement: 07/03/2019

Measurement duration: 22 minutes 29 seconds

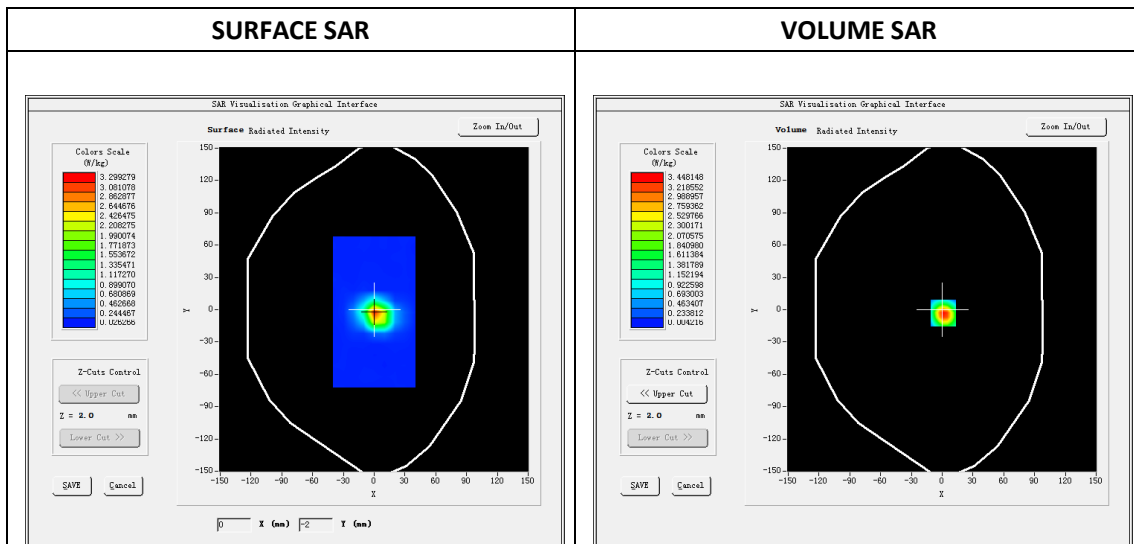
A. Experimental conditions.

Phantom File	dx=8mm dy=8mm
Phantom	7x7x8,dx=4mm dy=4mm dz=2mm
Device Position	Dipole
Band	5400MHz
Channels	
Signal	CW

B. SAR Measurement Results

Band SAR

E-Field Probe	SATIMO SN_27/15_EPG0261
Frequency (MHz)	5400
Relative permittivity (real part)	36.12
Relative permittivity	16.03
Conductivity (S/m)	4.81
Power drift (%)	-1.60
Ambient Temperature:	22.2°C
Liquid Temperature:	22.5°C
Crest factor:	1:1
ConvF:	2.10

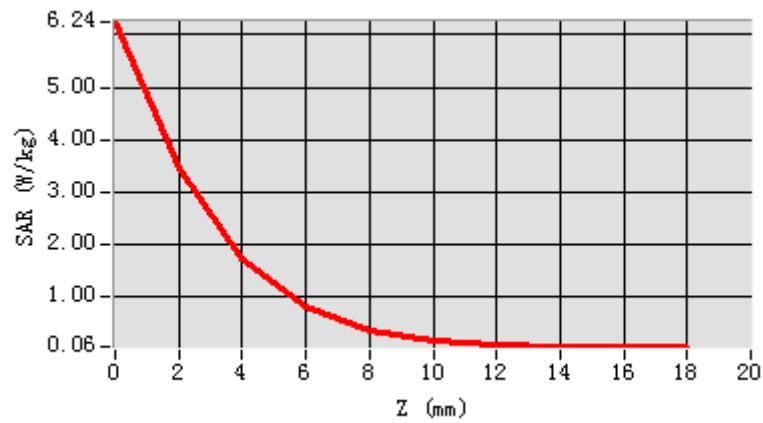


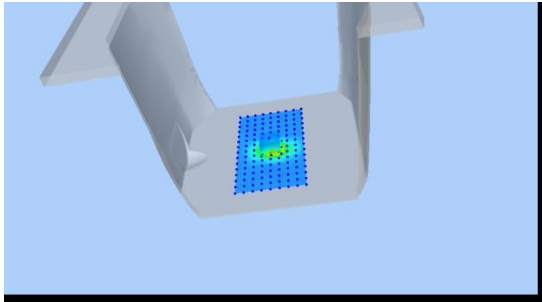
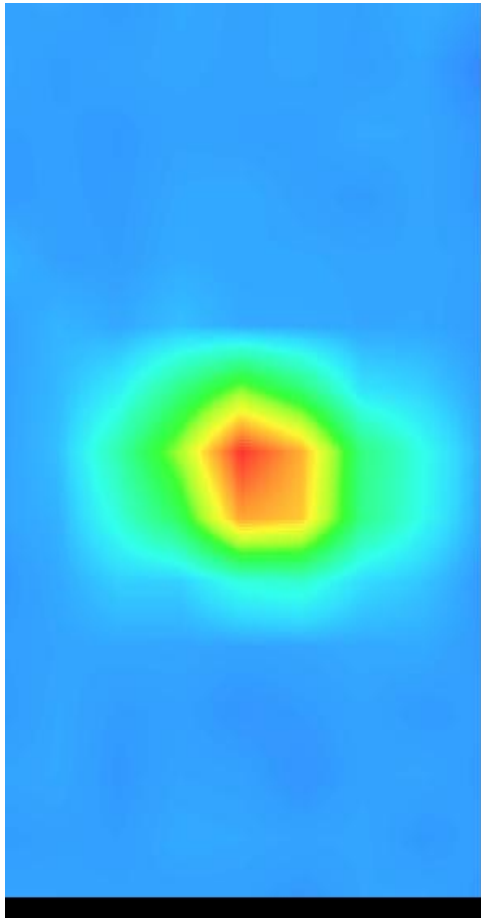
Maximum location: X=1.00, Y=-3.00

SAR Peak: 6.57W/kg

SAR 10g (W/Kg)	0.558678
SAR 1g (W/Kg)	1.857389

Z (mm)	0.00	2.00	4.00	6.00	8.00	10.00	12.00	14.00	16.00
SAR (W/Kg)	6.2408	3.4481	1.7373	0.8036	0.3588	0.1640	0.0863	0.0598	0.0561



3D screen shot	Hot spot position
	

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: 07/03/2019

Measurement duration: 22 minutes 24 seconds

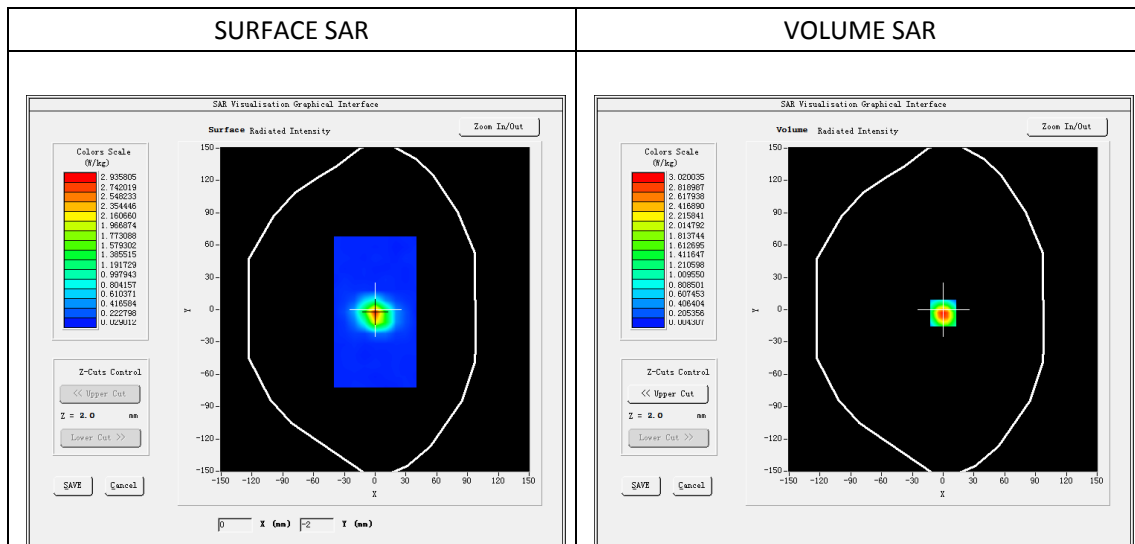
A. Experimental conditions.

Phantom File	dx=8mm dy=8mm
Phantom	7x7x8,dx=4mm dy=4mm dz=2mm
Device Position	Dipole
Band	5400MHz
Channels	
Signal	CW

B. SAR Measurement Results

Band SAR

E-Field Probe	SATIMO SN_27/15_EPG0261
Frequency (MHz)	5400
Relative permittivity (real part)	47.25
Relative permittivity	18.43
Conductivity (S/m)	5.53
Power drift (%)	-1.23
Ambient Temperature:	22.2°C
Liquid Temperature:	22.5°C
Crest factor:	1:1
ConvF:	2.16

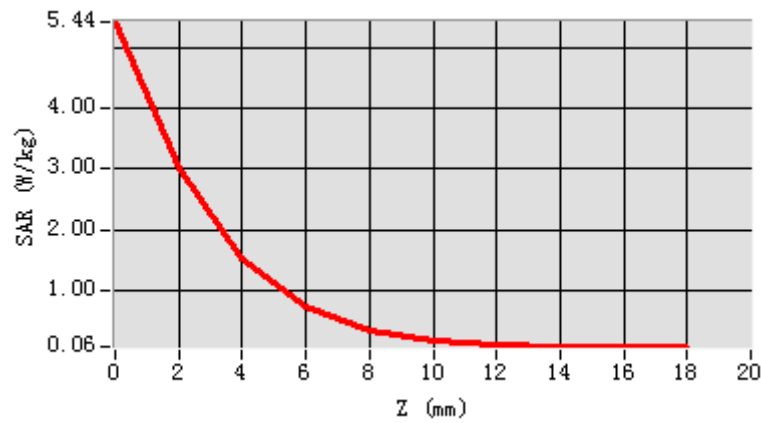


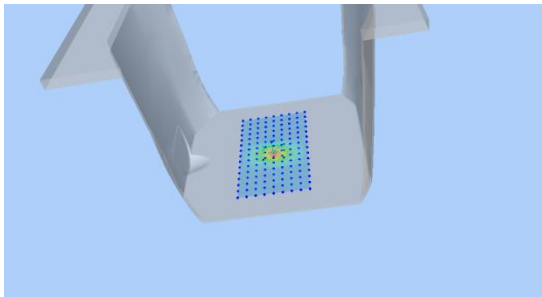
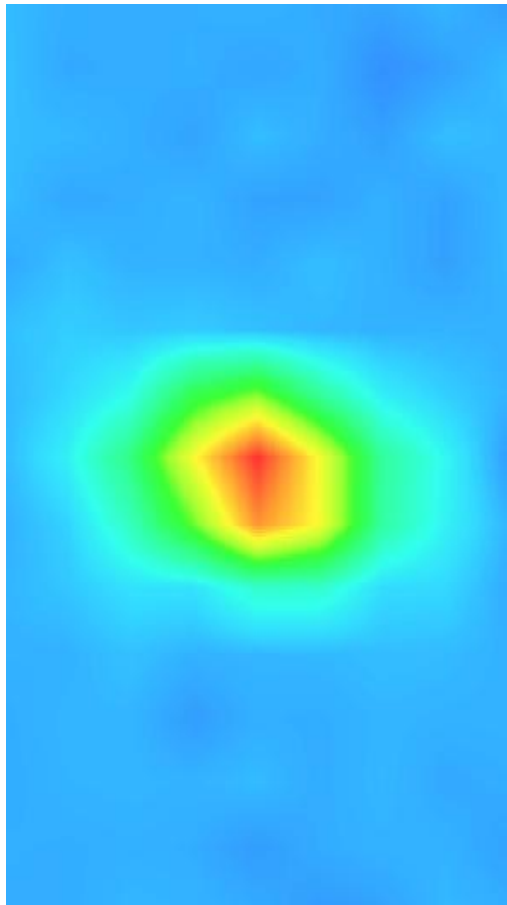
Maximum location: X=0.00, Y=-3.00

SAR Peak: 5.71 W/kg

SAR 10g (W/Kg)	0.502071
SAR 1g (W/Kg)	1.628736

Z (mm)	0.00	2.00	4.00	6.00	8.00	10.00	12.00	14.00	16.00
SAR (W/Kg)	5.4417	3.0200	1.5333	0.7188	0.3282	0.1554	0.0856	0.0619	0.0593



3D screen shot	Hot spot position
	

System Performance Check (Head, 5600MHz)

Type: Phone measurement

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

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

Date of measurement: 07/04/2019

Measurement duration: 22 minutes 11 seconds

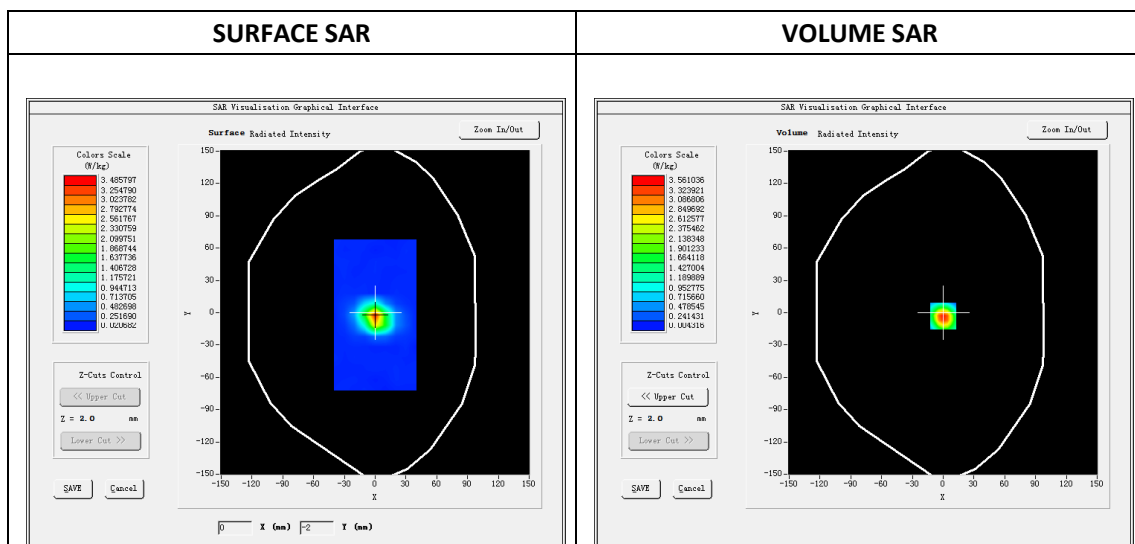
A. Experimental conditions.

Phantom File	dx=8mm dy=8mm
Phantom	7x7x8,dx=4mm dy=4mm dz=2mm
Device Position	Dipole
Band	5600MHz
Channels	
Signal	CW

B. SAR Measurement Results

Band SAR

E-Field Probe	SATIMO SN_27/15_EPG0261
Frequency (MHz)	5600
Relative permittivity (real part)	35.83
Relative permittivity	16.49
Conductivity (S/m)	5.13
Power drift (%)	-2.96
Ambient Temperature:	22.2°C
Liquid Temperature:	22.5°C
Crest factor:	1:1
ConvF:	2.17

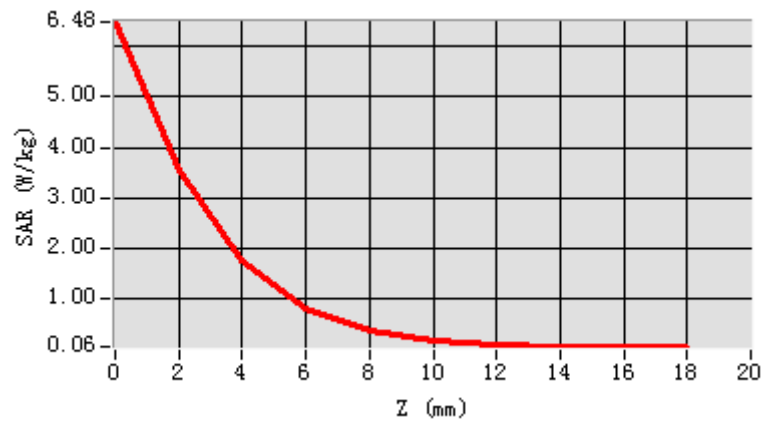


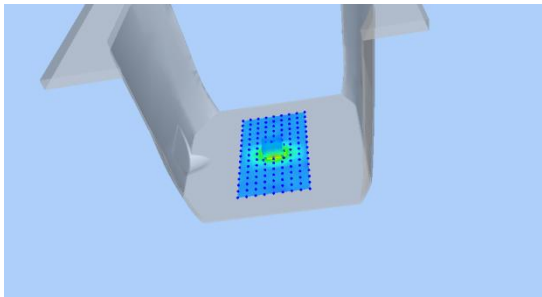
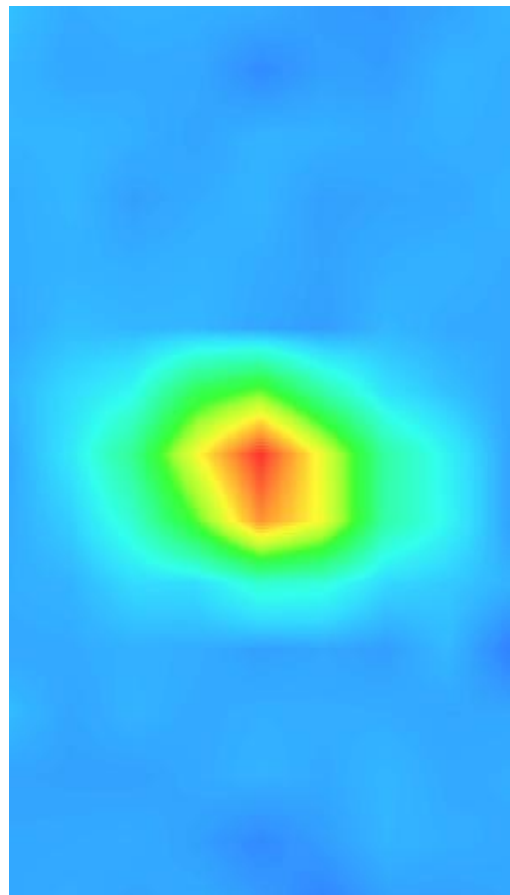
Maximum location: X=0.00, Y=-3.00

SAR Peak: 6.82W/kg

SAR 10g (W/Kg)	0.580013
SAR 1g (W/Kg)	1.910518

Z (mm)	0.00	2.00	4.00	6.00	8.00	10.00	12.00	14.00	16.00
SAR (W/Kg)	6.4809	3.5610	1.7788	0.8139	0.3595	0.1636	0.0873	0.0629	0.0621



3D screen shot	Hot spot position
	

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: 07/04/2019

Measurement duration: 22 minutes 22 seconds

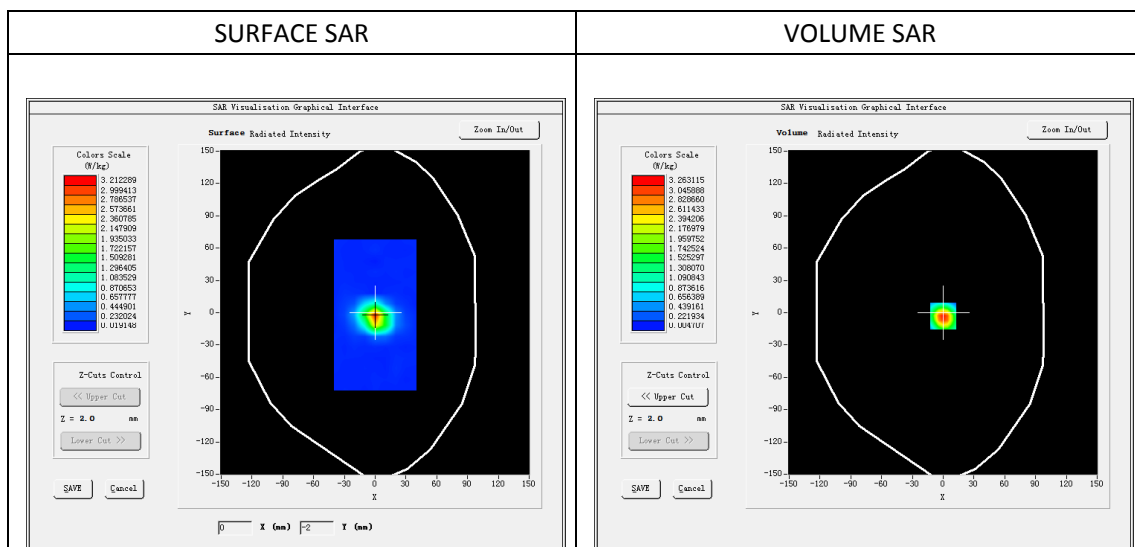
A. Experimental conditions.

Phantom File	dx=8mm dy=8mm
Phantom	7x7x8,dx=4mm dy=4mm dz=2mm
Device Position	Dipole
Band	5600MHz
Channels	
Signal	CW

B. SAR Measurement Results

Band SAR

E-Field Probe	SATIMO SN_27/15_EPG0261
Frequency (MHz)	5600
Relative permittivity (real part)	48.66
Relative permittivity	18.13
Conductivity (S/m)	5.64
Power drift (%)	-0.29
Ambient Temperature:	22.2°C
Liquid Temperature:	22.5°C
Crest factor:	1:1
ConvF:	2.24

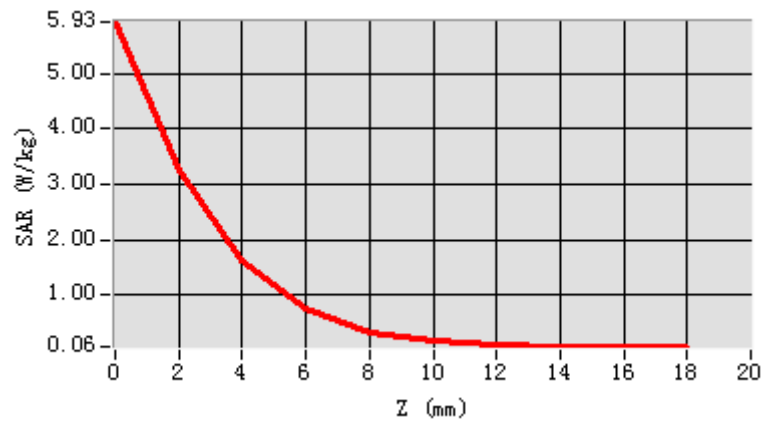


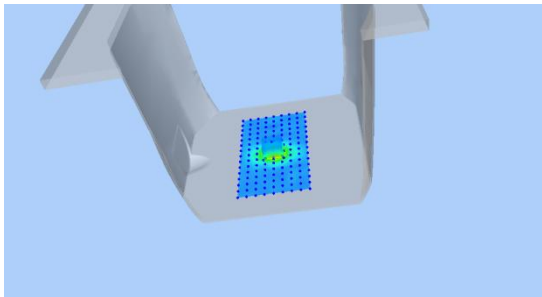
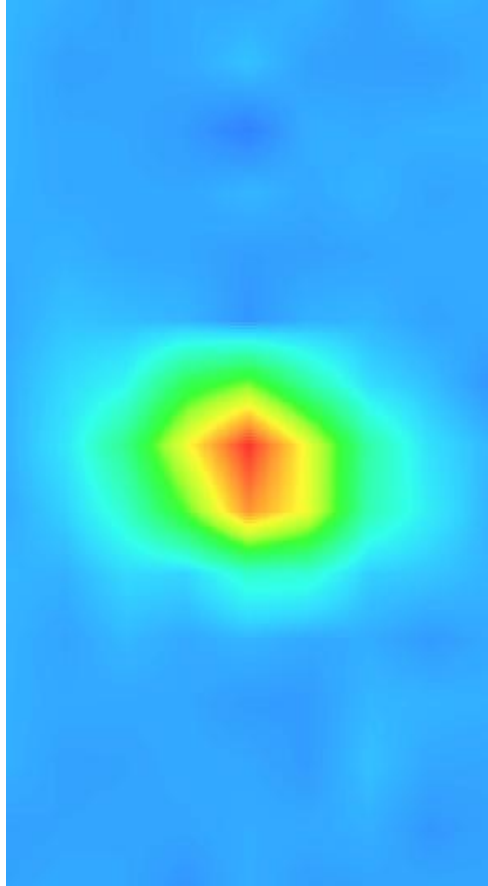
Maximum location: X=0.00, Y=-3.00

SAR Peak: 6.24 W/kg

SAR 10g (W/Kg)	0.537846
SAR 1g (W/Kg)	1.755155

Z (mm)	0.00	2.00	4.00	6.00	8.00	10.00	12.00	14.00	16.00
SAR (W/Kg)	5.9319	3.2631	1.6336	0.7513	0.3355	0.1559	0.0858	0.0640	0.0646



3D screen shot	Hot spot position
	

System Performance Check (Head, 5800MHz)

Type: Phone measurement

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

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

Date of measurement: 07/05/2019

Measurement duration: 22 minutes 36 seconds

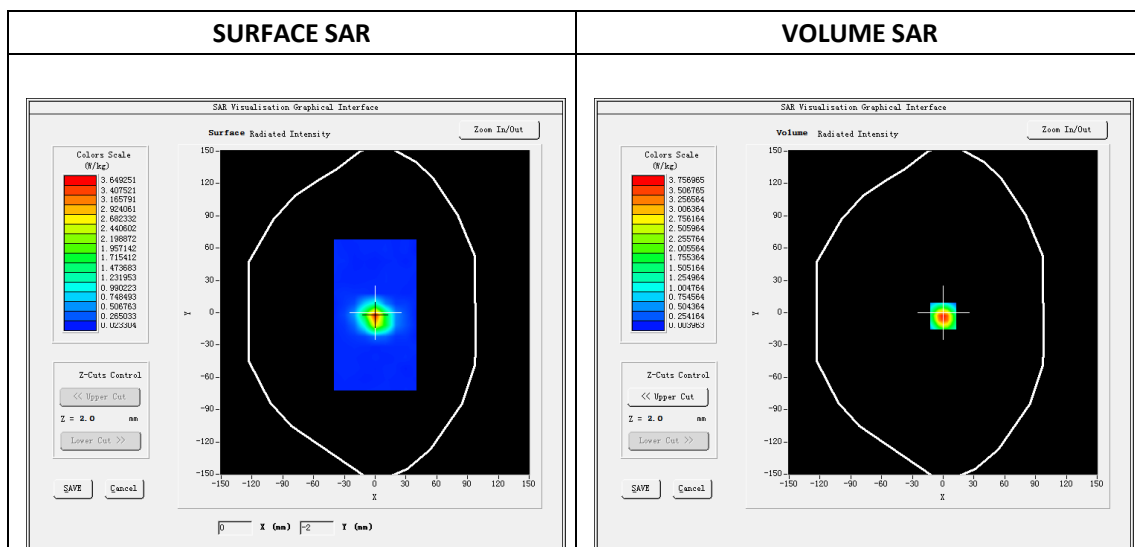
A. Experimental conditions.

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)	35.42
Relative permittivity	16.17
Conductivity (S/m)	5.21
Power drift (%)	-1.04
Ambient Temperature:	22.2°C
Liquid Temperature:	22.5°C
Crest factor:	1:1
ConvF:	2.19

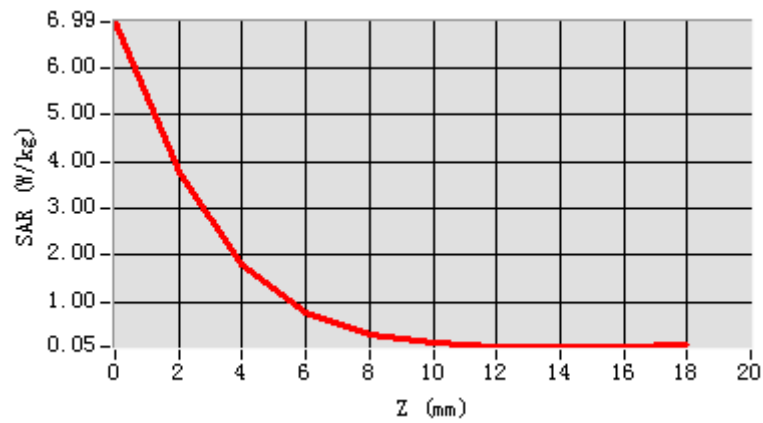


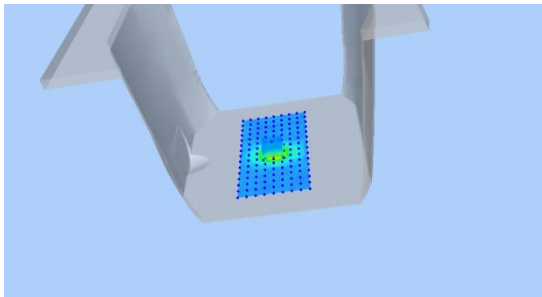
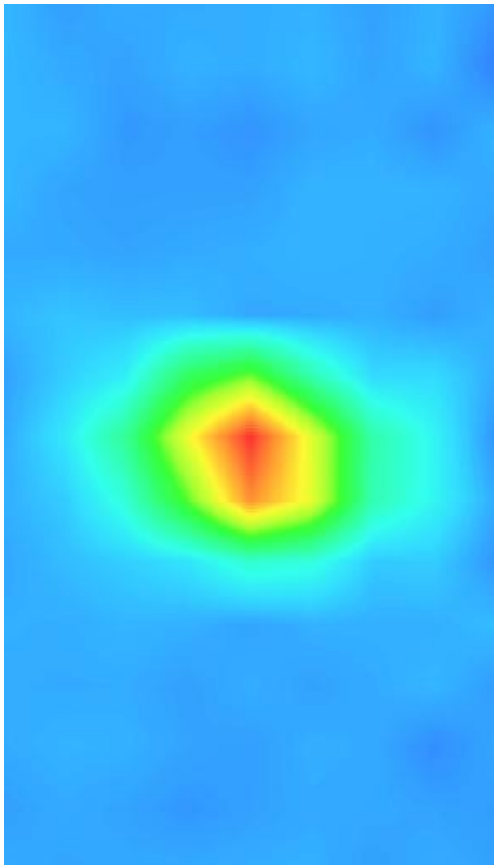
Maximum location: X=0.00, Y=-3.00

SAR Peak: 7.37 W/kg

SAR 10g (W/Kg)	0.585784
SAR 1g (W/Kg)	1.991290

Z (mm)	0.00	2.00	4.00	6.00	8.00	10.00	12.00	14.00	16.00
SAR (W/Kg)	6.9876	3.7570	1.8102	0.7848	0.3219	0.1343	0.0674	0.0499	0.0549



3D screen shot	Hot spot position
	

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: 07/05/2019

Measurement duration: 22 minutes 28 seconds

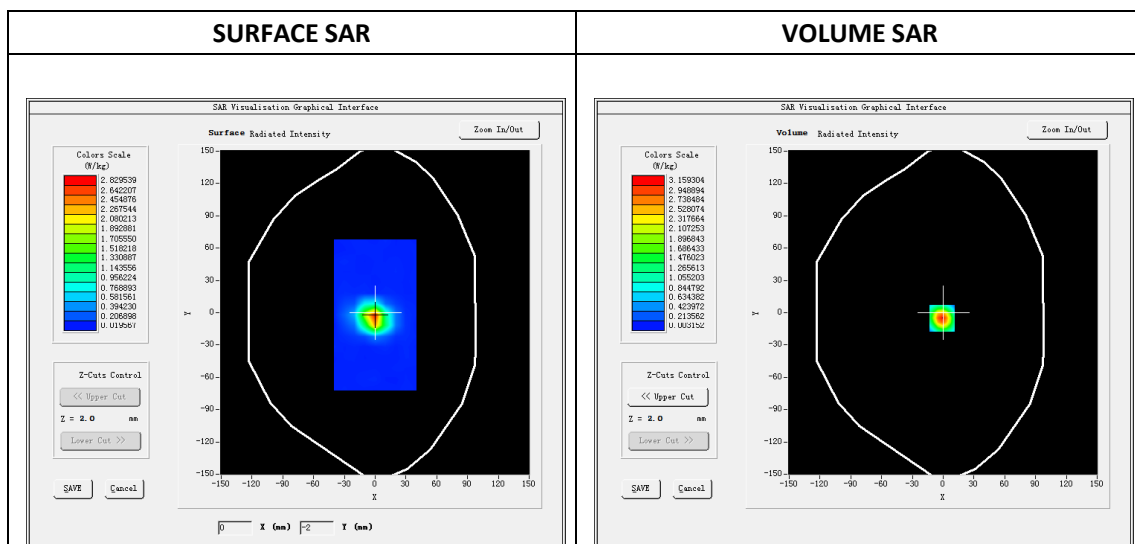
A. Experimental conditions.

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)	48.13
Relative permittivity	18.28
Conductivity (S/m)	5.89
Power drift (%)	2.57
Ambient Temperature:	22.2°C
Liquid Temperature:	22.5°C
Crest factor:	1:1
ConvF:	2.26

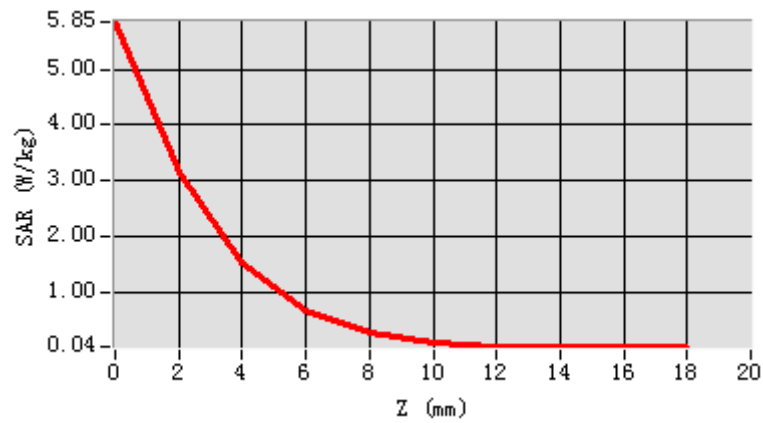


Maximum location: X=-1.00, Y=-5.00

SAR Peak: 6.11 W/kg

SAR 10g (W/Kg)	0.476107
SAR 1g (W/Kg)	1.640308

Z (mm)	0.00	2.00	4.00	6.00	8.00	10.00	12.00	14.00	16.00
SAR (W/Kg)	5.8461	3.1593	1.5345	0.6714	0.2770	0.1146	0.0552	0.0379	0.0385



3D screen shot	Hot spot position
