

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

| Measurement | Liquid | Frequency | Test Date |
|--------------------|---------------|------------------|------------------|
| System Check | Head | 835 | 2019-08-26 |
| System Check | Body | 835 | 2019-08-26 |
| System Check | Head | 1800 | 2019-08-27 |
| System Check | Body | 1800 | 2019-08-27 |
| System Check | Head | 1900 | 2019-08-28 |
| System Check | Body | 1900 | 2019-08-28 |
| System Check | Head | 2450 | 2019-08-29 |
| System Check | Body | 2450 | 2019-08-29 |
| System Check | Head | 2600 | 2019-08-30 |
| System Check | Body | 2600 | 2019-08-30 |
| System Check | Head | 5200 | 2019-08-31 |
| System Check | Body | 5200 | 2019-08-31 |
| System Check | Head | 5800 | 2019-09-02 |
| System Check | Body | 5800 | 2019-09-02 |

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: 08/26/2019

Measurement duration: 22 minutes 04 seconds

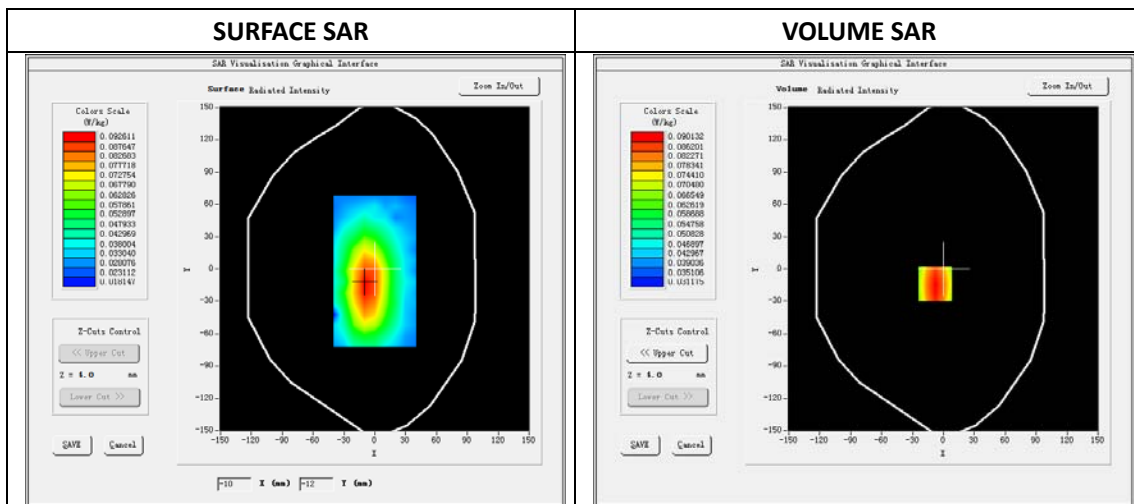
A. Experimental conditions.

| | |
|-----------------|----------------------------|
| 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

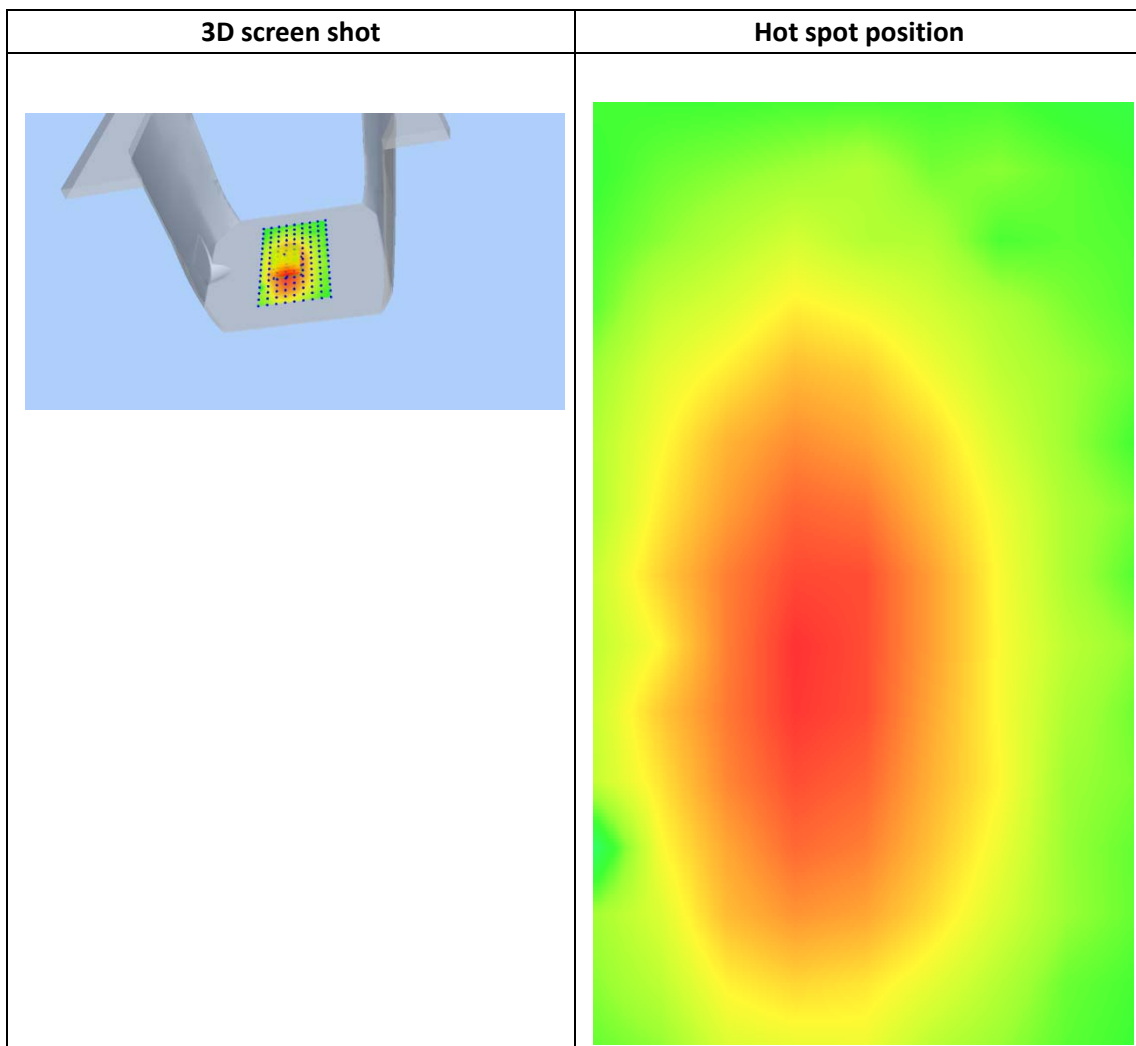
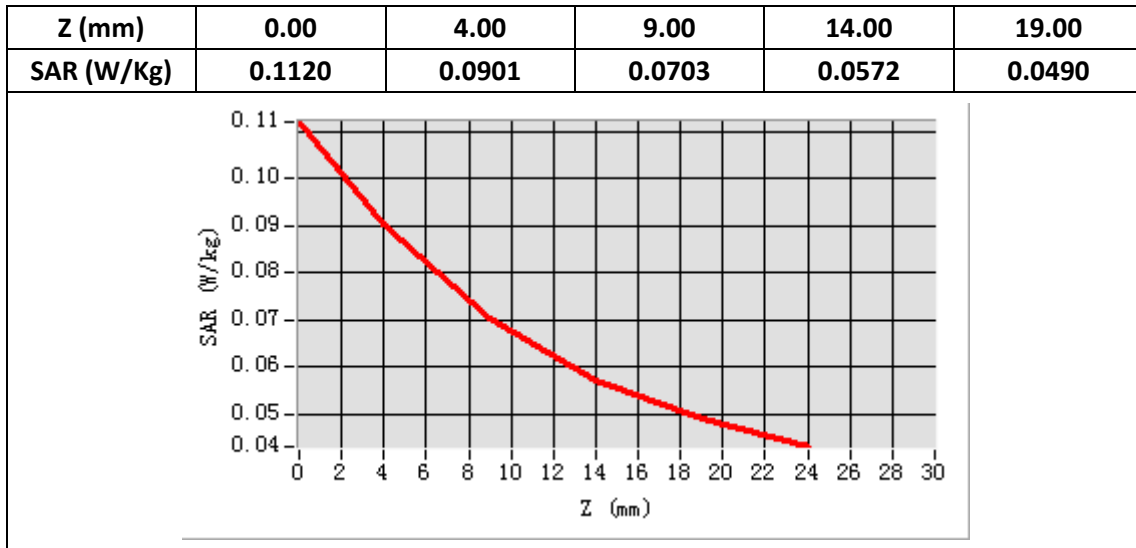
| | |
|-----------------------------------|-------------------------|
| E-Field Probe | SATIMO SN_27/15_EPG0261 |
| Frequency (MHz) | 835 |
| Relative permittivity (real part) | 41.52 |
| Relative permittivity | 20.69 |
| Conductivity (S/m) | 0.96 |
| Power drift (%) | -3.49 |
| Ambient Temperature: | 22.2°C |
| Liquid Temperature: | 22.6°C |
| ConvF: | 1.92 |
| Crest factor: | 1:1 |



Maximum location: X=-8.00, Y=-14.00

SAR Peak: 0.11 W/kg

| | |
|----------------|----------|
| SAR 10g (W/Kg) | 0.067556 |
| SAR 1g (W/Kg) | 0.087667 |



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: 08/26/2019

Measurement duration: 22 minutes 07 seconds

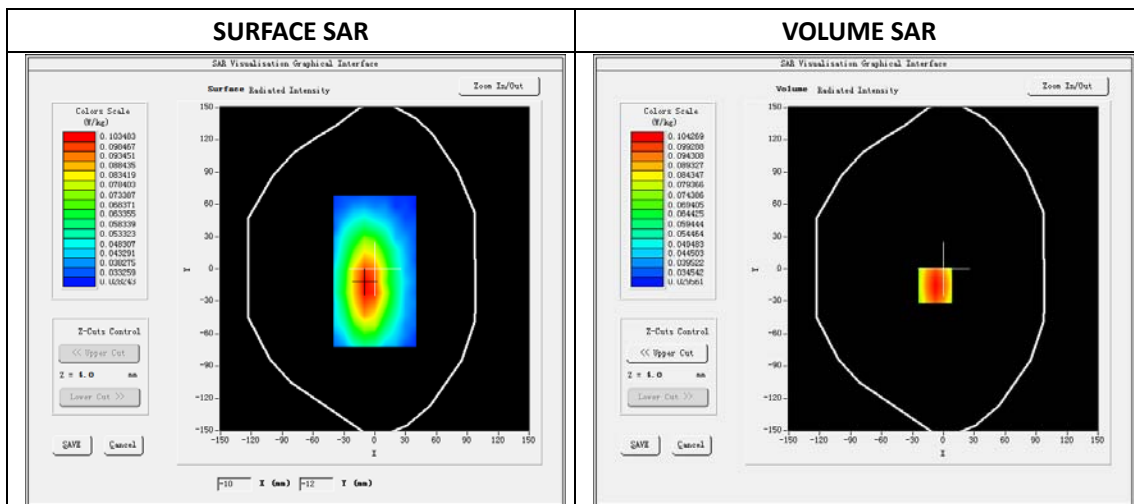
A. Experimental conditions.

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

B. SAR Measurement Results

Band SAR

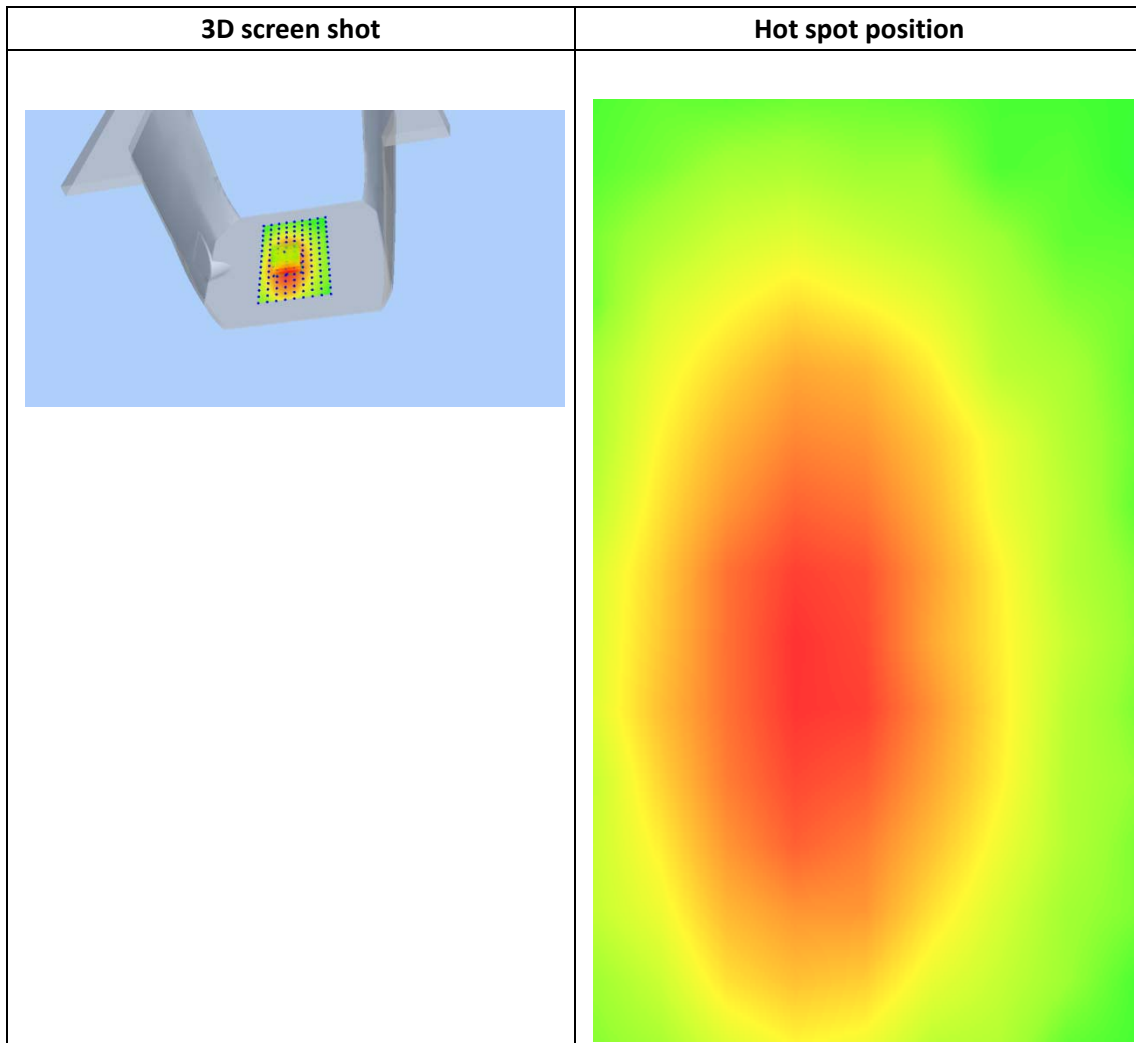
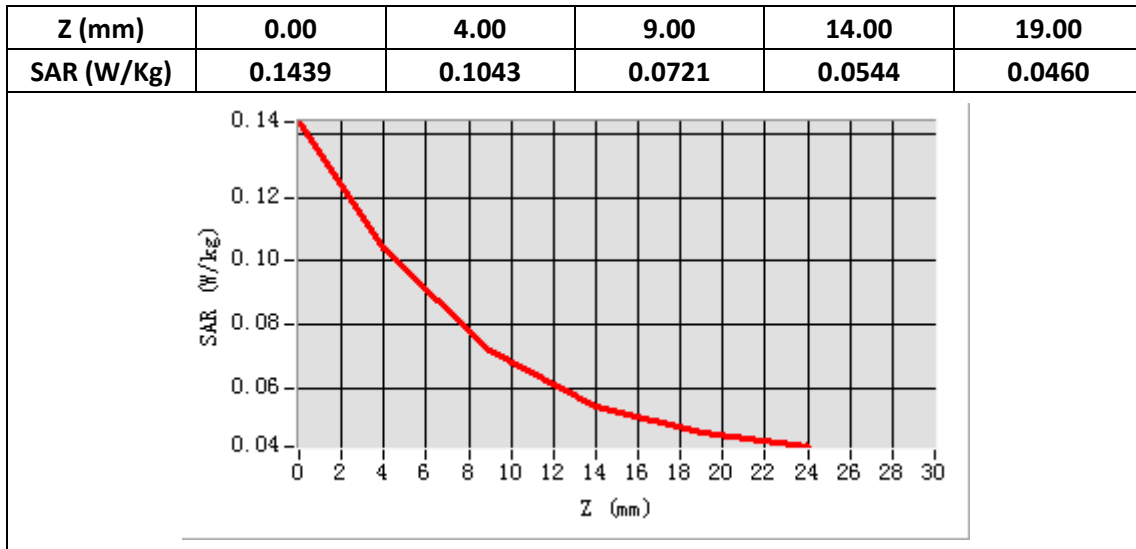
| | |
|-----------------------------------|-------------------------|
| E-Field Probe | SATIMO SN_27/15_EPG0261 |
| Frequency (MHz) | 835 |
| Relative permittivity (real part) | 55.57 |
| Relative permittivity | 20.48 |
| Conductivity (S/m) | 0.95 |
| Power drift (%) | -2.16 |
| Ambient Temperature: | 22.2°C |
| Liquid Temperature: | 22.6°C |
| ConvF: | 1.99 |
| Crest factor: | 1:1 |



Maximum location: X=-8.00, Y=-15.00

SAR Peak: 0.14 W/kg

| | |
|----------------|----------|
| SAR 10g (W/Kg) | 0.073758 |
| SAR 1g (W/Kg) | 0.103015 |



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: 08/27/2019

Measurement duration: 22 minutes 02 seconds

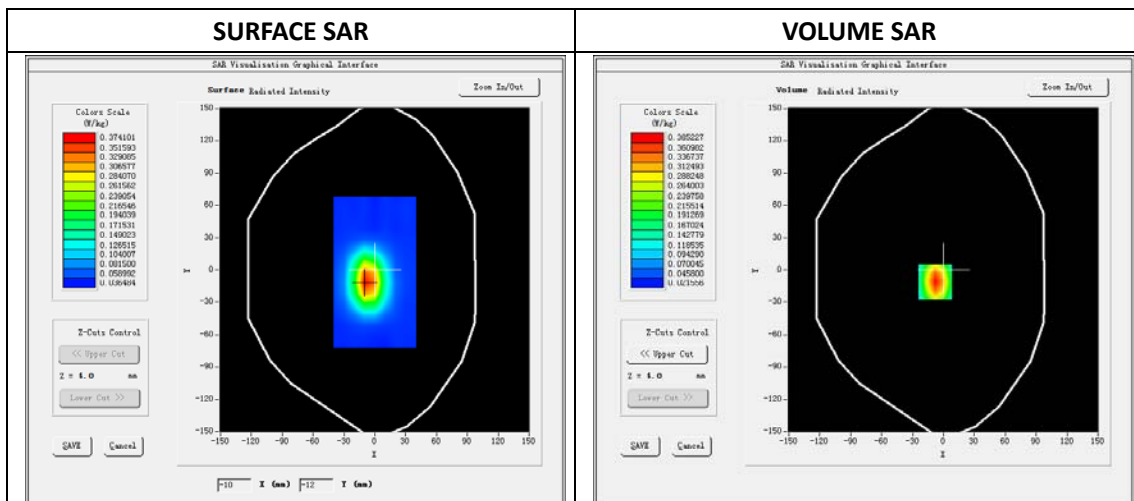
A. Experimental conditions.

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

B. SAR Measurement Results

Band SAR

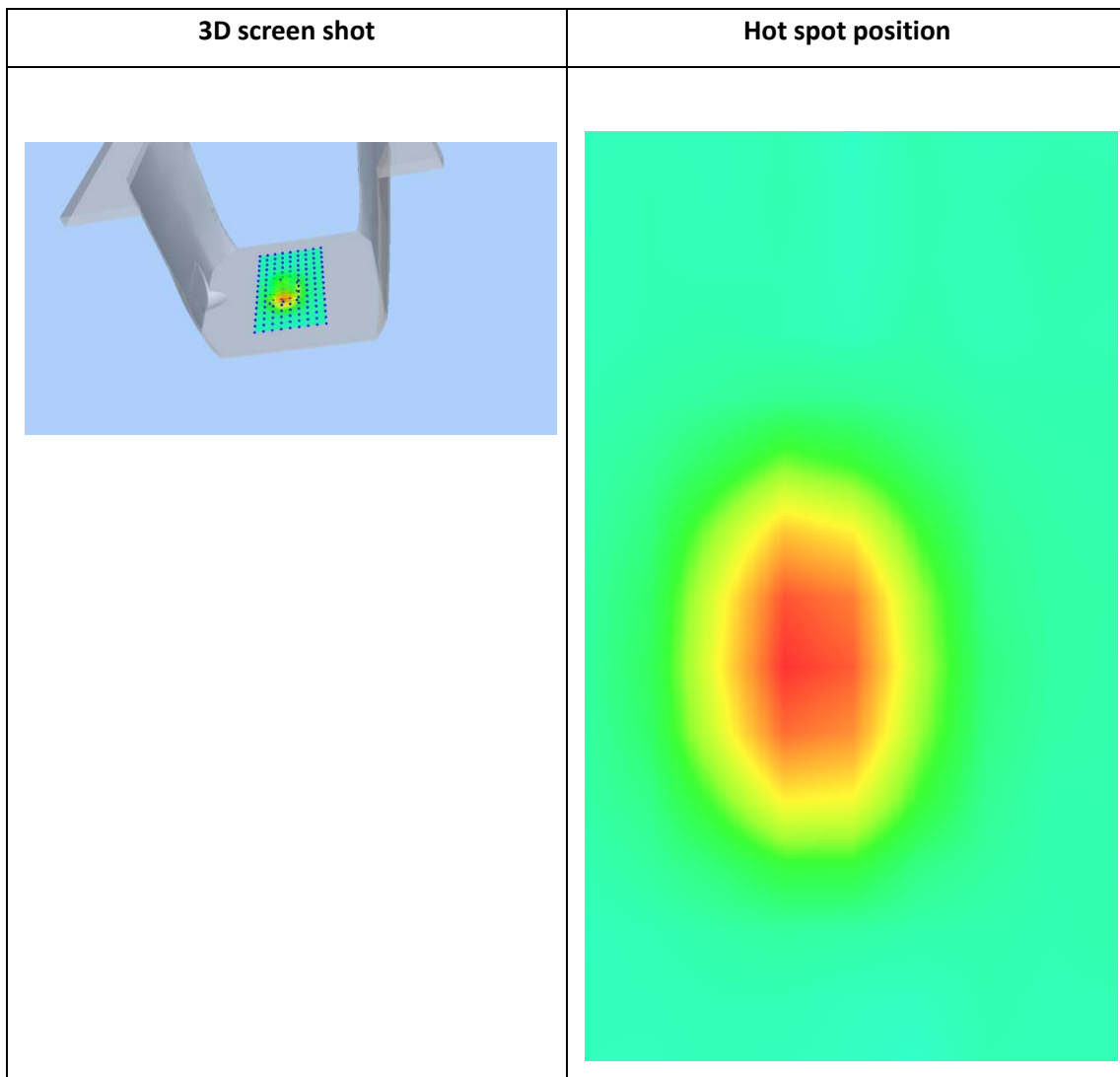
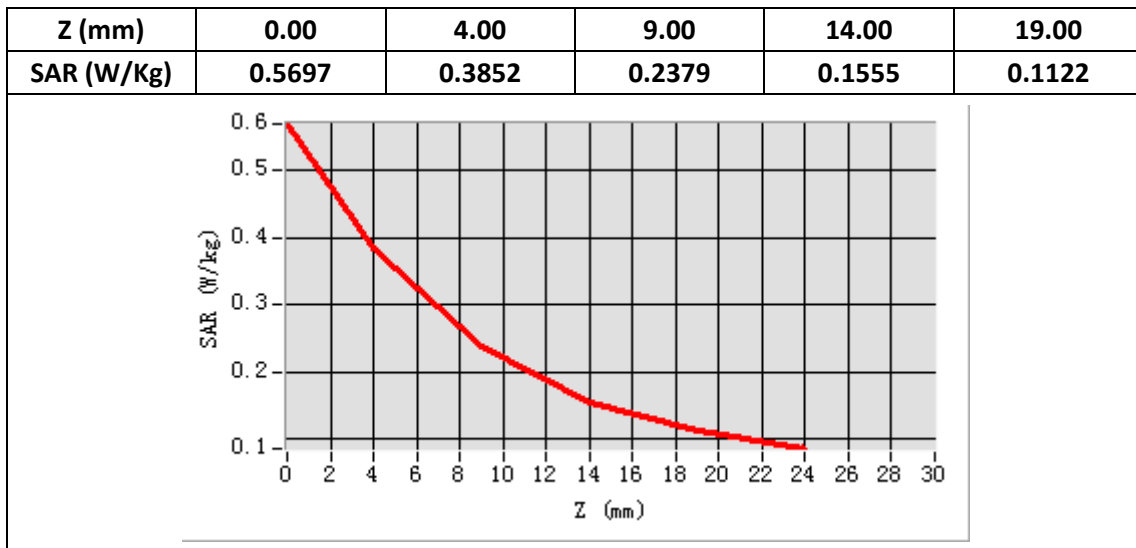
| | |
|-----------------------------------|-------------------------|
| E-Field Probe | SATIMO SN_27/15_EPG0261 |
| Frequency (MHz) | 1800 |
| Relative permittivity (real part) | 40.96 |
| Relative permittivity | 14.10 |
| Conductivity (S/m) | 1.41 |
| Power Drift (%) | -1.88 |
| Ambient Temperature: | 22.1°C |
| Liquid Temperature: | 22.6°C |
| ConvF: | 2.14 |
| Duty factor: | 1:1 |



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

SAR Peak: 0.57 W/kg

| | |
|----------------|----------|
| SAR 10g (W/Kg) | 0.211239 |
| SAR 1g (W/Kg) | 0.364960 |



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: 08/27/2019

Measurement duration: 22 minutes 11 seconds

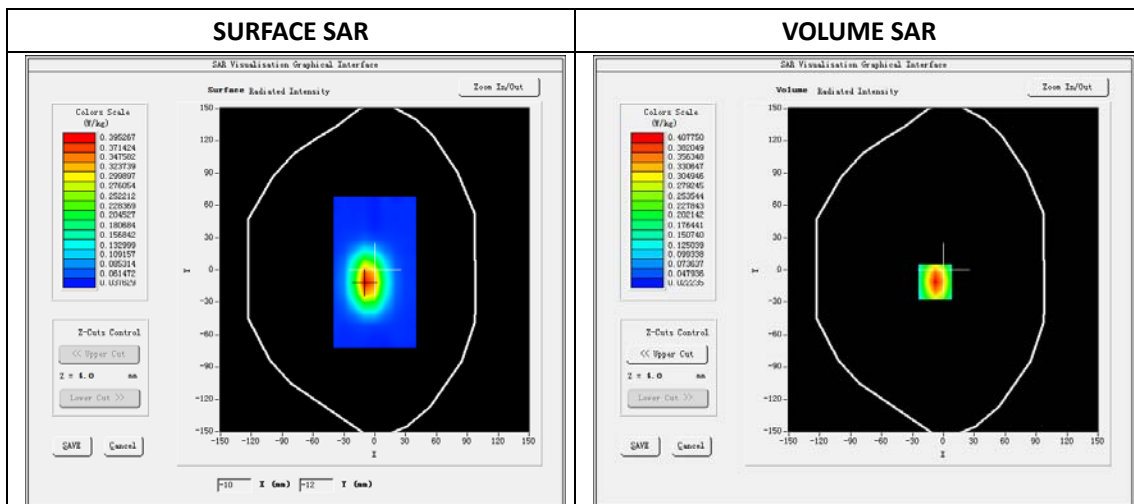
A. Experimental conditions.

| | |
|-----------------|----------------------------|
| 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

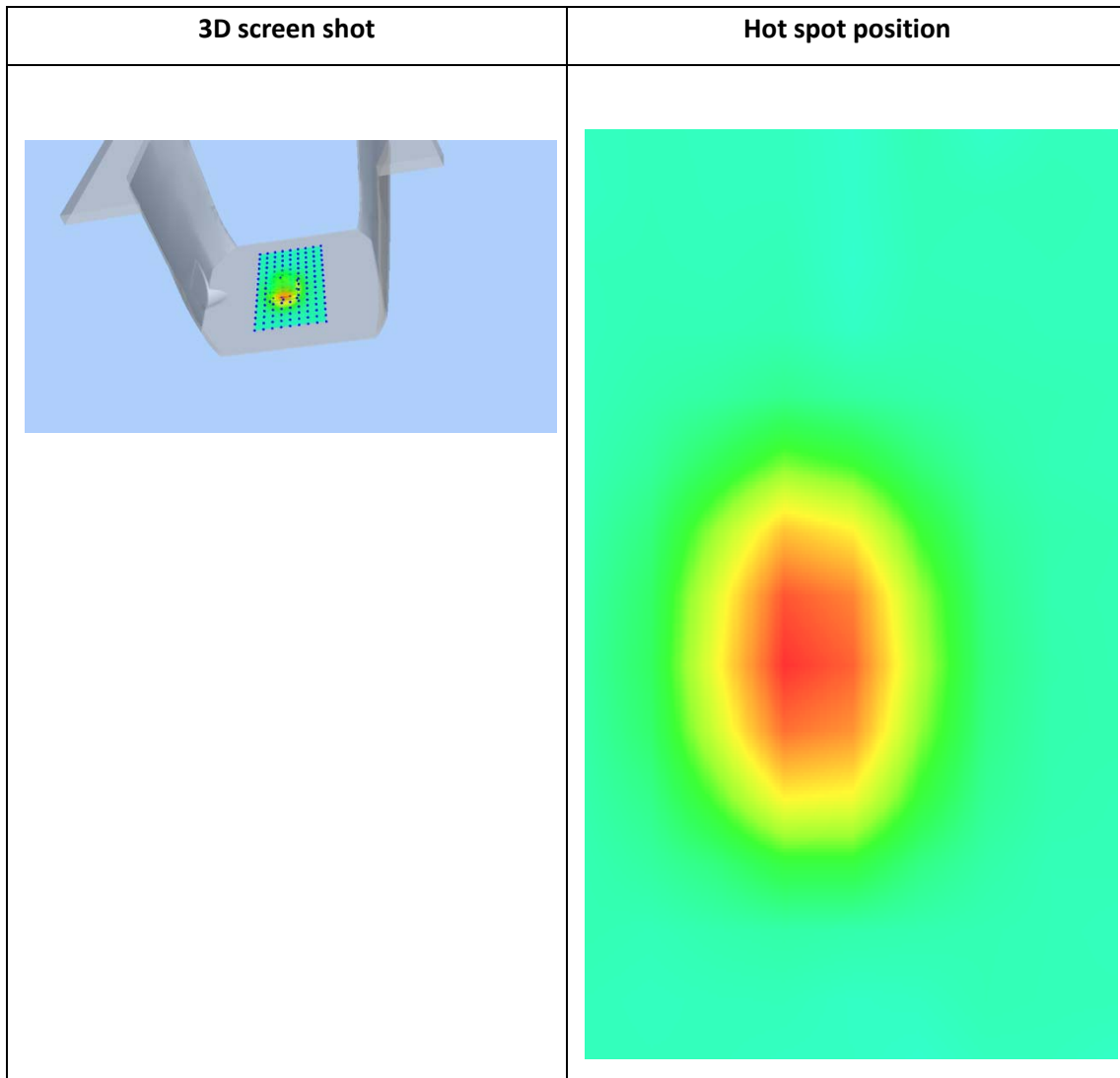
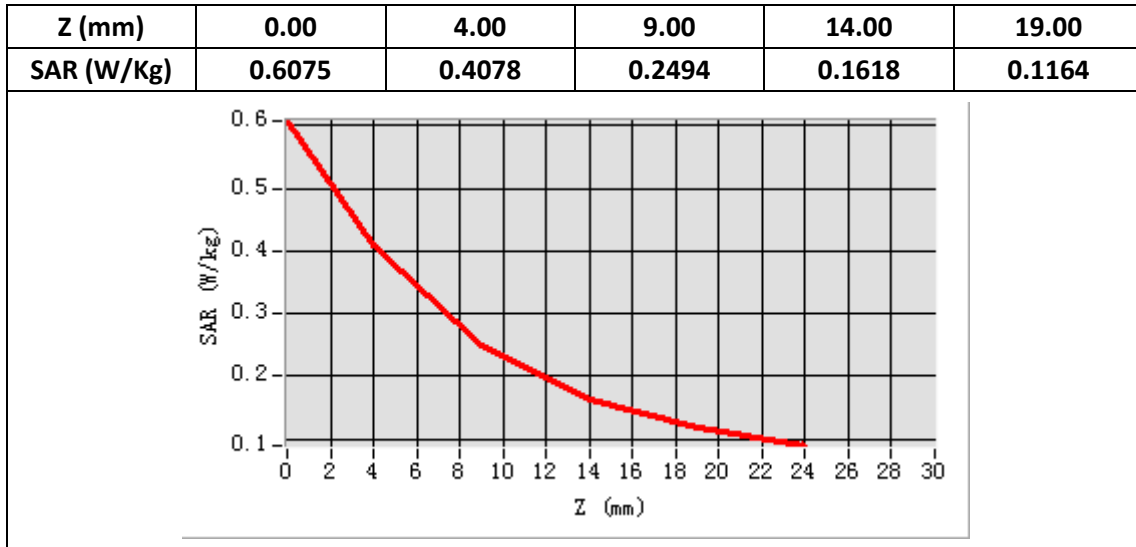
| | |
|-----------------------------------|-------------------------|
| E-Field Probe | SATIMO SN_27/15_EPG0261 |
| Frequency (MHz) | 1800 |
| Relative permittivity (real part) | 53.87 |
| Relative permittivity | 15.40 |
| Conductivity (S/m) | 1.54 |
| Power Drift (%) | -1.45 |
| Ambient Temperature: | 22.1°C |
| Liquid Temperature: | 22.6°C |
| ConvF: | 2.22 |
| Duty factor: | 1:1 |



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

SAR Peak: 0.61 W/kg

| | |
|----------------|----------|
| SAR 10g (W/Kg) | 0.219953 |
| SAR 1g (W/Kg) | 0.380664 |



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: 08/28/2019

Measurement duration: 22 minutes 15 seconds

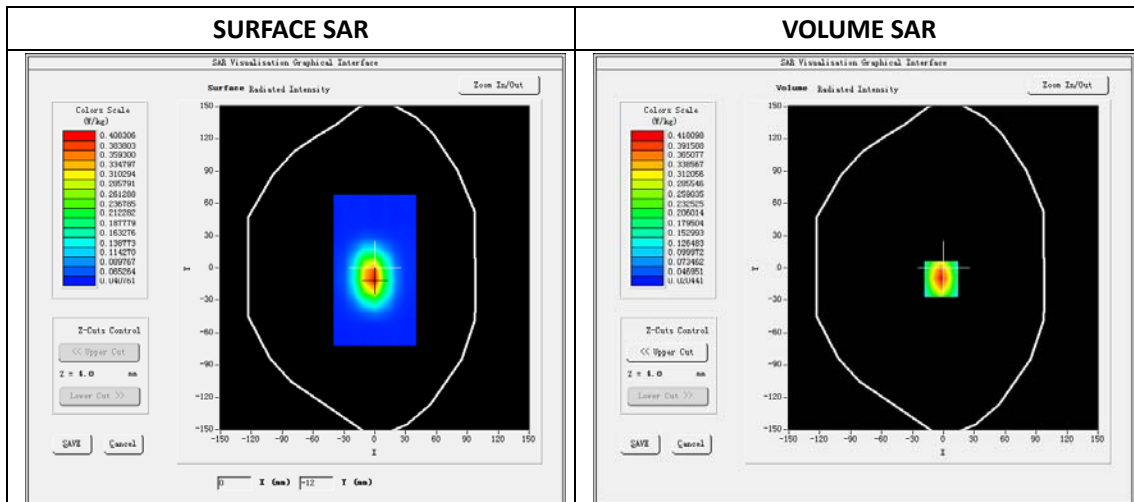
A. Experimental conditions.

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

B. SAR Measurement Results

Band SAR

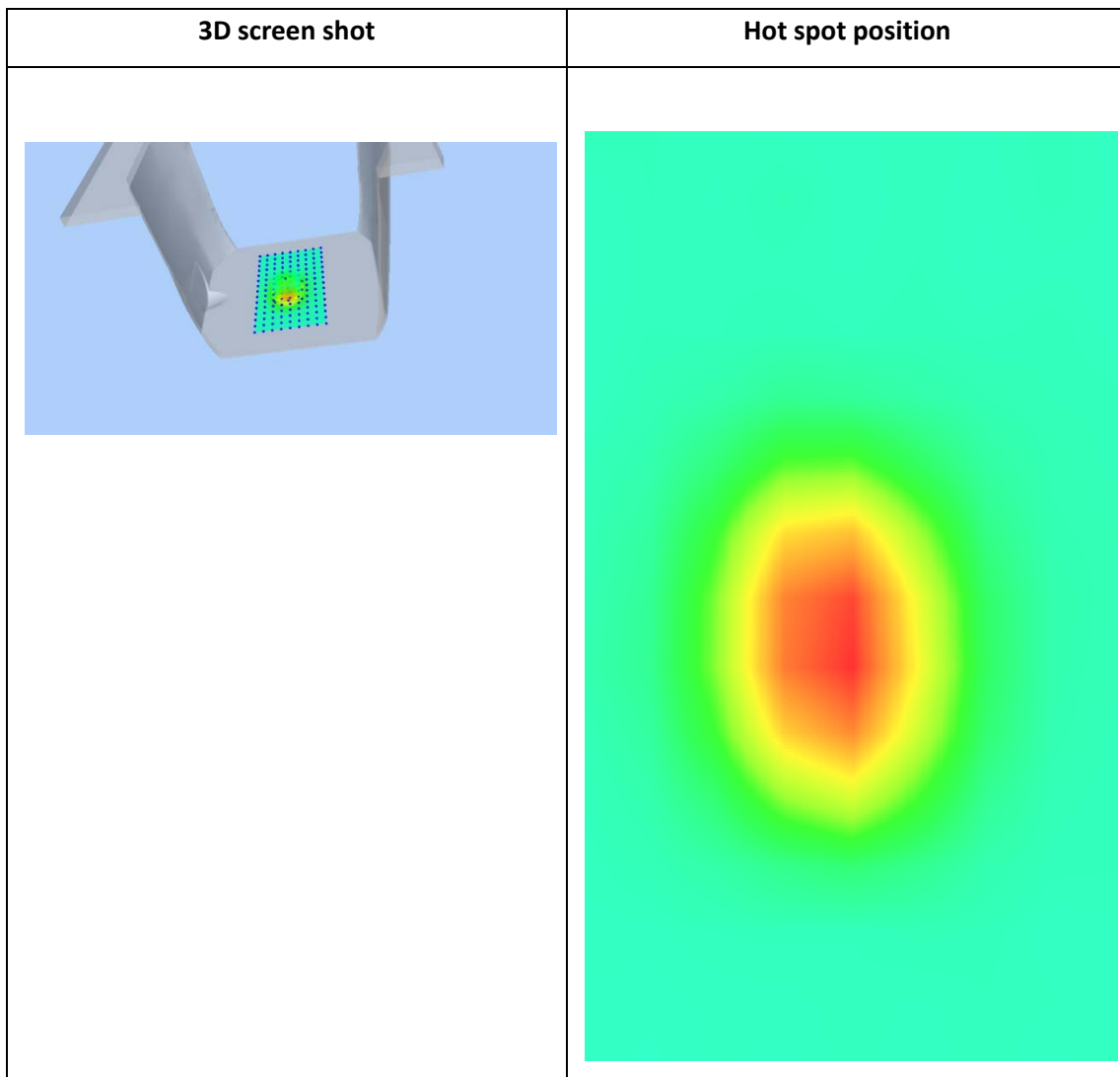
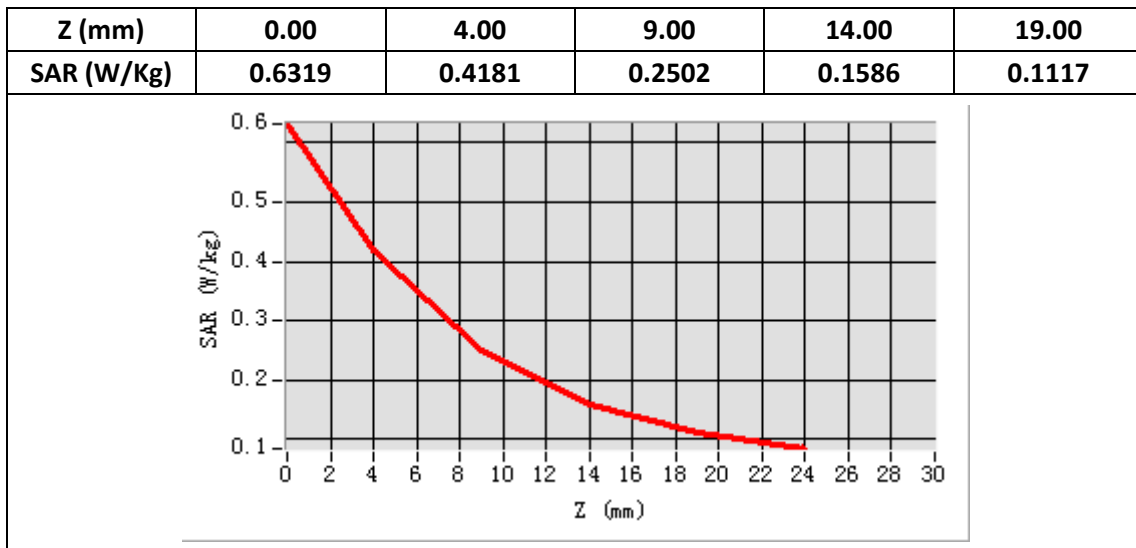
| | |
|--|-------------------------|
| E-Field Probe | SATIMO SN_27/15_EPG0261 |
| Frequency (MHz) | 1900 |
| Relative permittivity (real part) | 40.76 |
| Relative permittivity | 13.55 |
| Conductivity (S/m) | 1.43 |
| Power Drift (%) | -0.76 |
| Ambient Temperature: | 22.1°C |
| Liquid Temperature: | 22.6°C |
| ConvF: | 2.34 |
| Duty factor: | 1:1 |



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

SAR Peak: 0.63 W/kg

| | |
|-----------------------|----------|
| SAR 10g (W/Kg) | 0.219740 |
| SAR 1g (W/Kg) | 0.391041 |



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: 08/28/2019

Measurement duration: 22 minutes 17 seconds

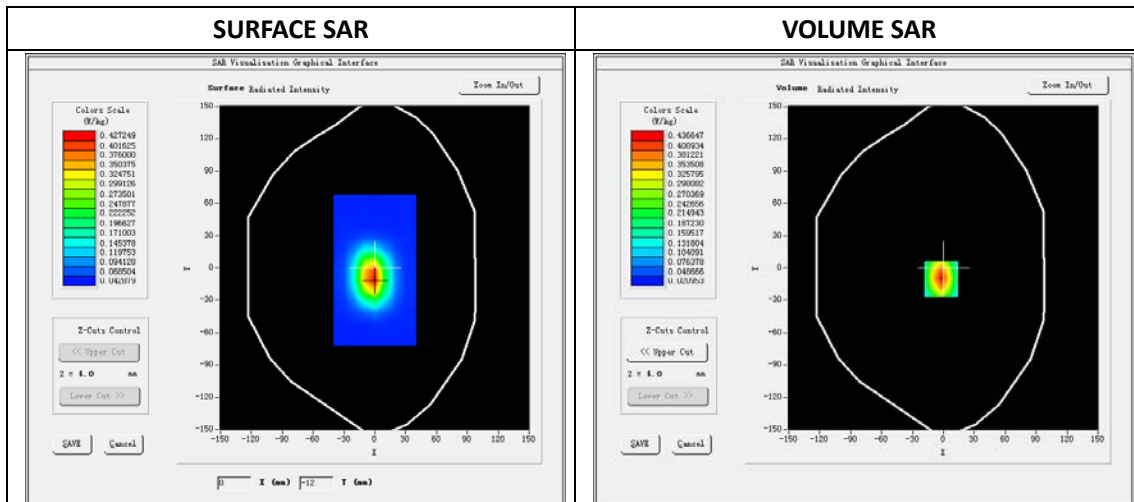
A. Experimental conditions.

| | |
|-----------------|----------------------------|
| 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

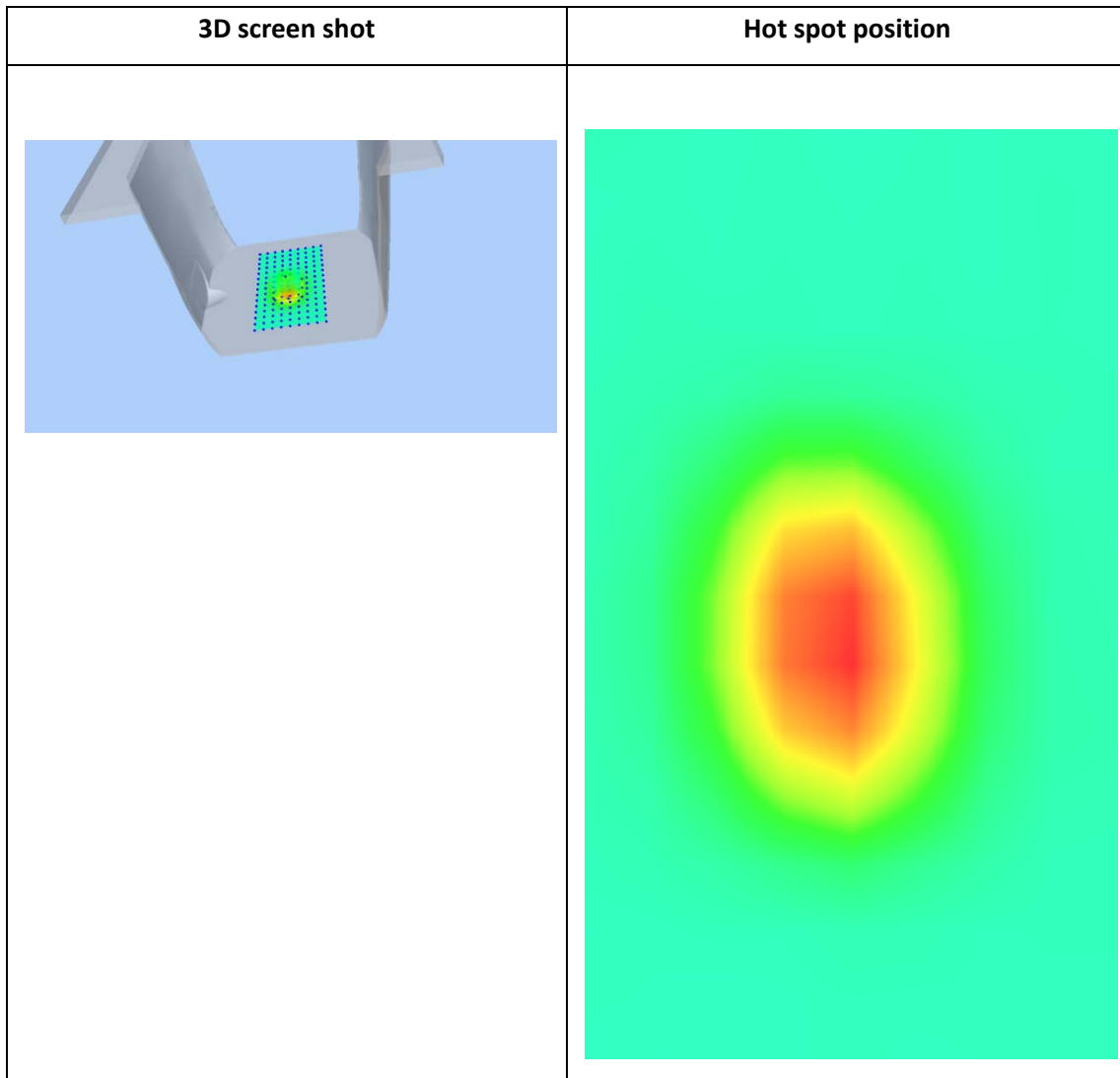
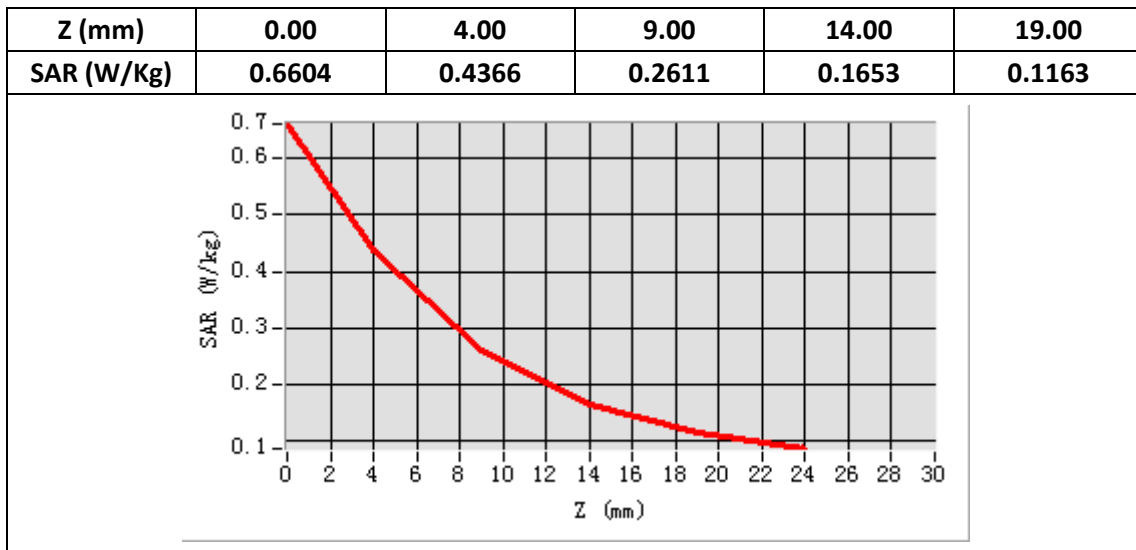
| | |
|-----------------------------------|-------------------------|
| E-Field Probe | SATIMO SN_27/15_EPG0261 |
| Frequency (MHz) | 1900 |
| Relative permittivity (real part) | 53.62 |
| Relative permittivity | 14.87 |
| Conductivity (S/m) | 1.57 |
| Power Drift (%) | -1.95 |
| Ambient Temperature: | 22.1°C |
| Liquid Temperature: | 22.6°C |
| ConvF: | 2.39 |
| Duty factor: | 1:1 |



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

SAR Peak: 0.66 W/kg

| | |
|----------------|----------|
| SAR 10g (W/Kg) | 0.228103 |
| SAR 1g (W/Kg) | 0.405144 |



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: 08/29/2019

Measurement duration: 22 minutes 18 seconds

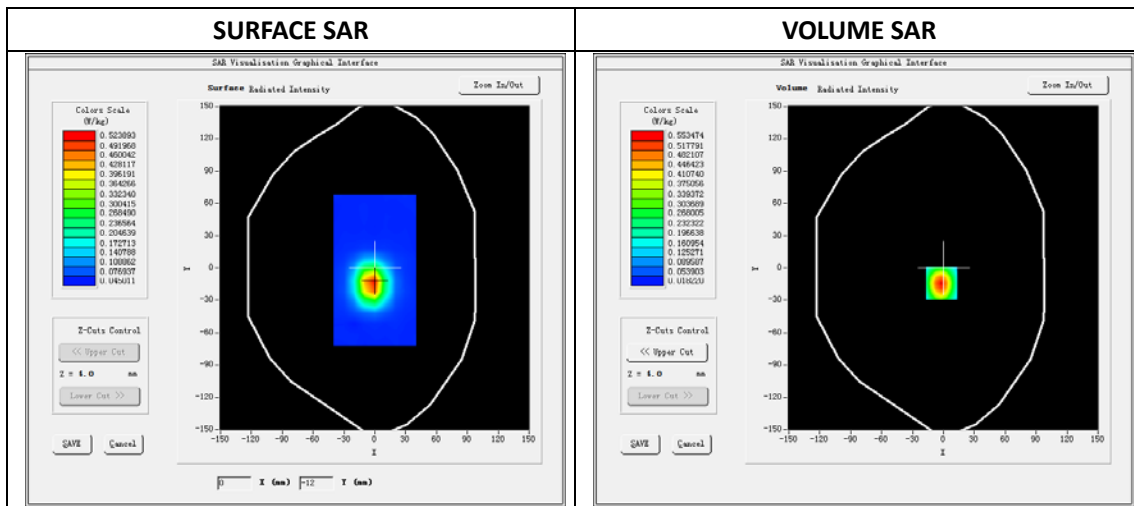
A. Experimental conditions.

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

B. SAR Measurement Results

Band SAR

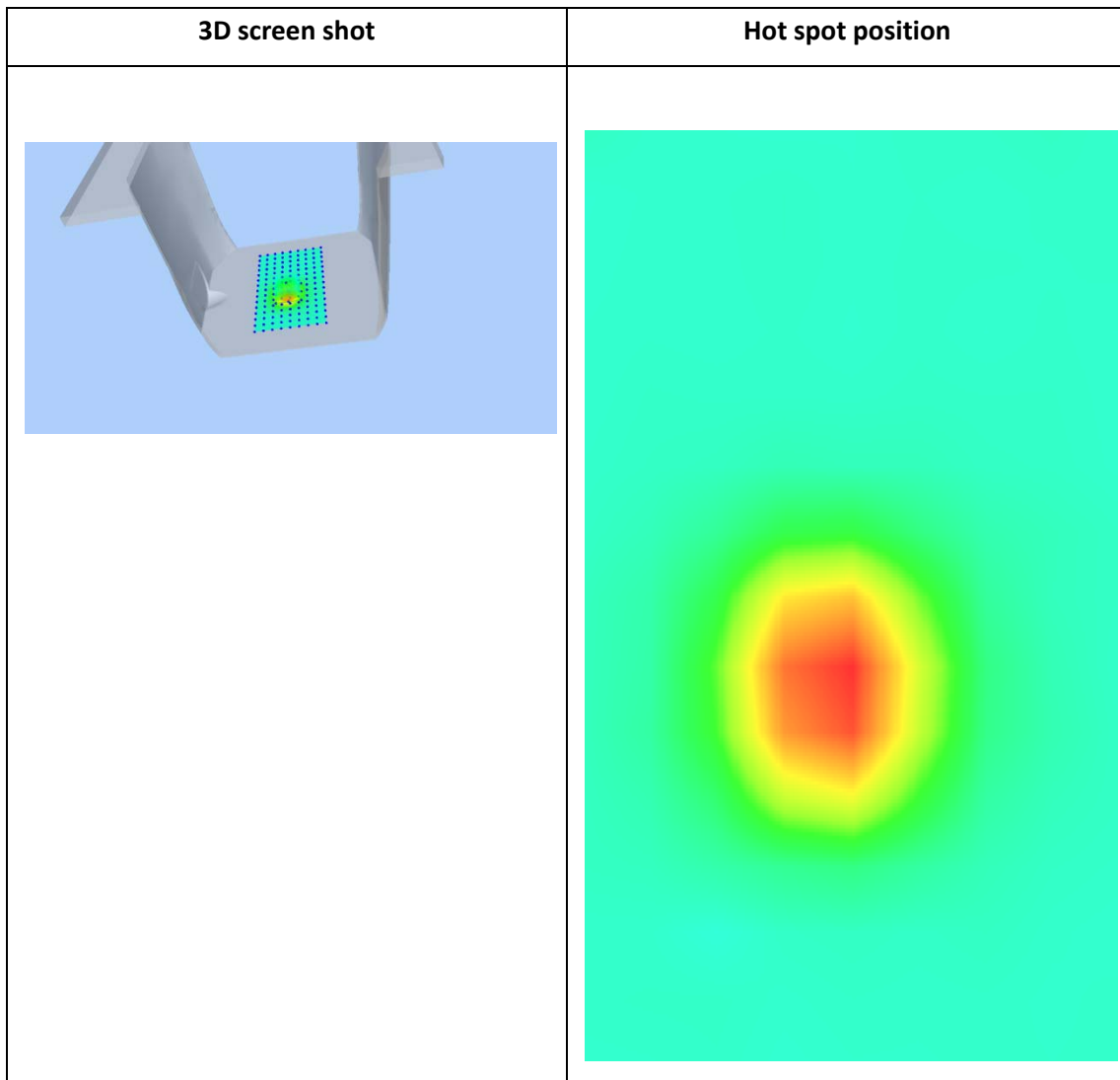
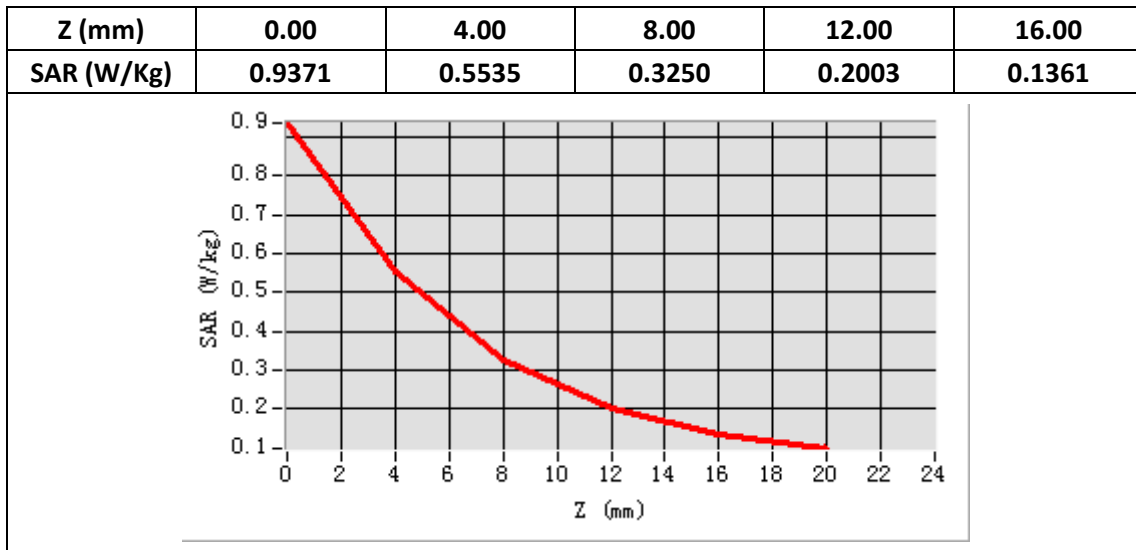
| | |
|--|-------------------------|
| E-Field Probe | SATIMO SN_27/15_EPG0261 |
| Frequency (MHz) | 2450 |
| Relative permittivity (real part) | 40.25 |
| Relative permittivity | 13.44 |
| Conductivity (S/m) | 1.83 |
| Power Drift (%) | -2.16 |
| Ambient Temperature: | 22.1°C |
| Liquid Temperature: | 22.6°C |
| ConvF: | 2.37 |
| Duty factor: | 1:1 |



Maximum location: X=-2.00, Y=-14.00

SAR Peak: 0.94 W/kg

| | |
|-----------------------|----------|
| SAR 10g (W/Kg) | 0.253090 |
| SAR 1g (W/Kg) | 0.503371 |



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: 08/29/2019

Measurement duration: 22 minutes 16 seconds

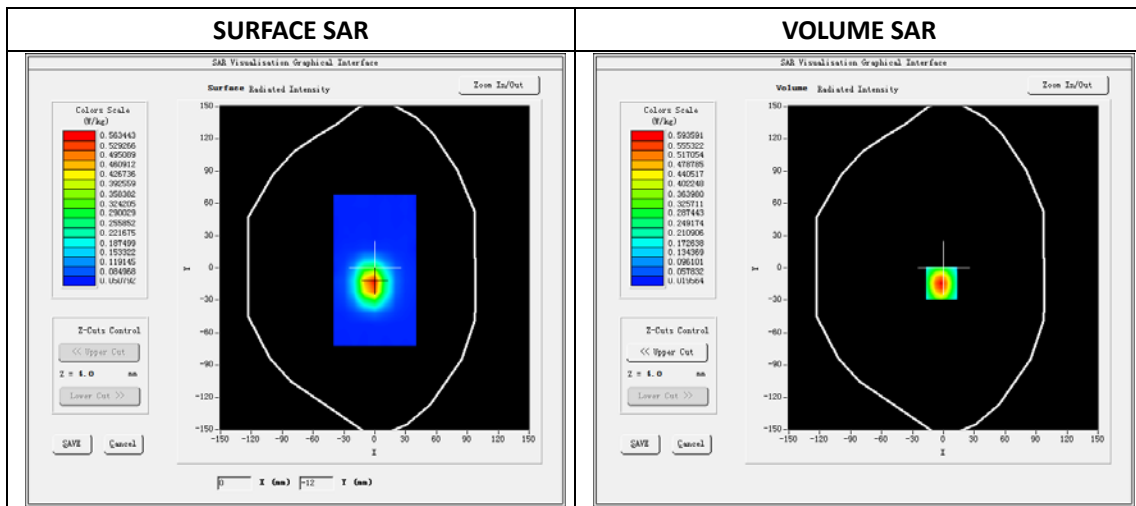
A. Experimental conditions.

| | |
|------------------------|----------------------------|
| 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

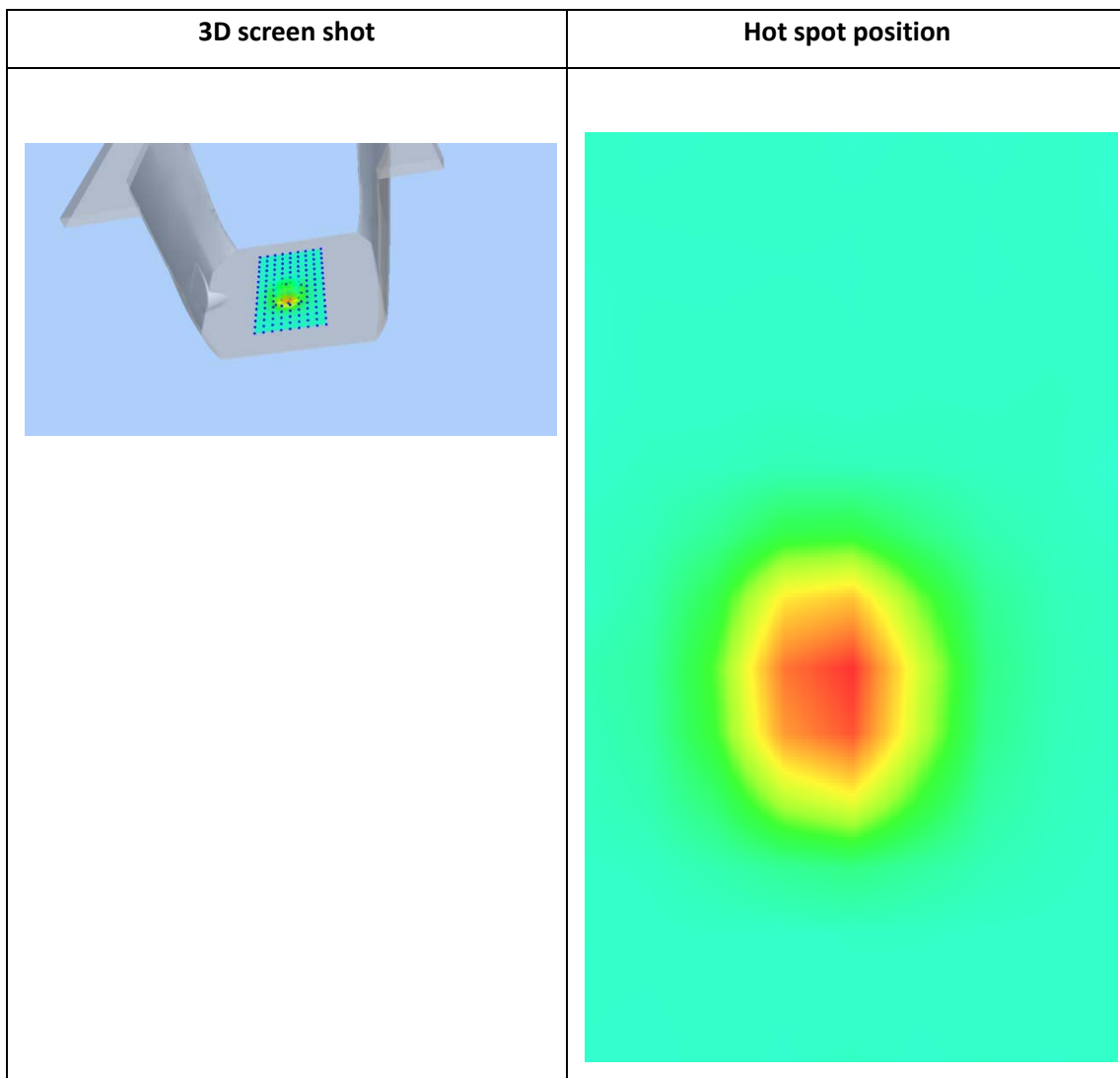
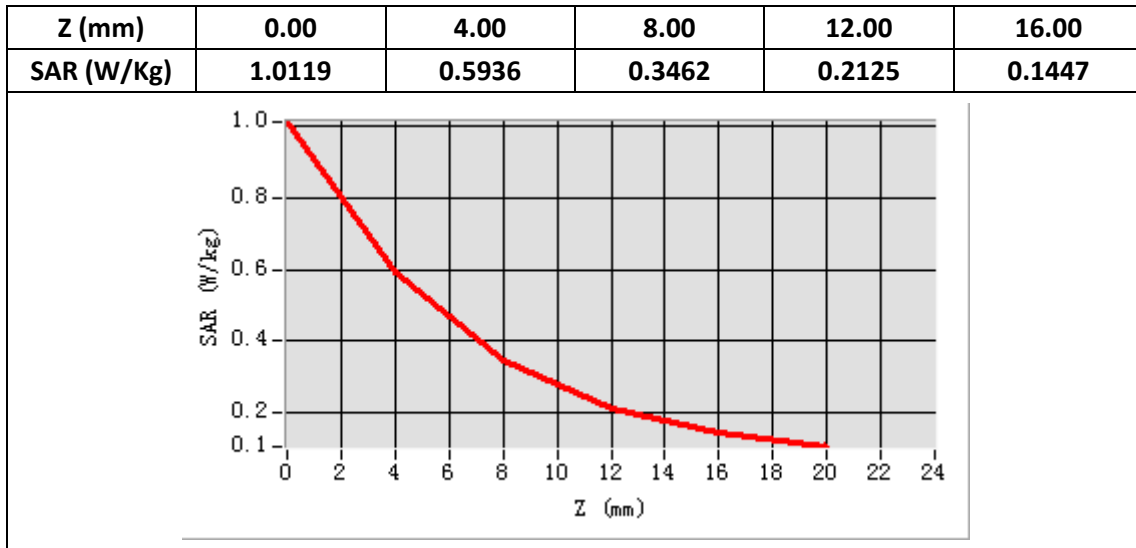
| | |
|--|-------------------------|
| E-Field Probe | SATIMO SN_27/15_EPG0261 |
| Frequency (MHz) | 2450 |
| Relative permittivity (real part) | 52.88 |
| Relative permittivity | 14.40 |
| Conductivity (S/m) | 1.96 |
| Power Drift (%) | -2.35 |
| Ambient Temperature: | 22.1°C |
| Liquid Temperature: | 22.6°C |
| ConvF: | 2.46 |
| Duty factor: | 1:1 |



Maximum location: X=-2.00, Y=-14.00

SAR Peak: 1.01 W/kg

| | |
|-----------------------|----------|
| SAR 10g (W/Kg) | 0.271903 |
| SAR 1g (W/Kg) | 0.543720 |



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: 08/30/2019

Measurement duration: 22 minutes 10 seconds

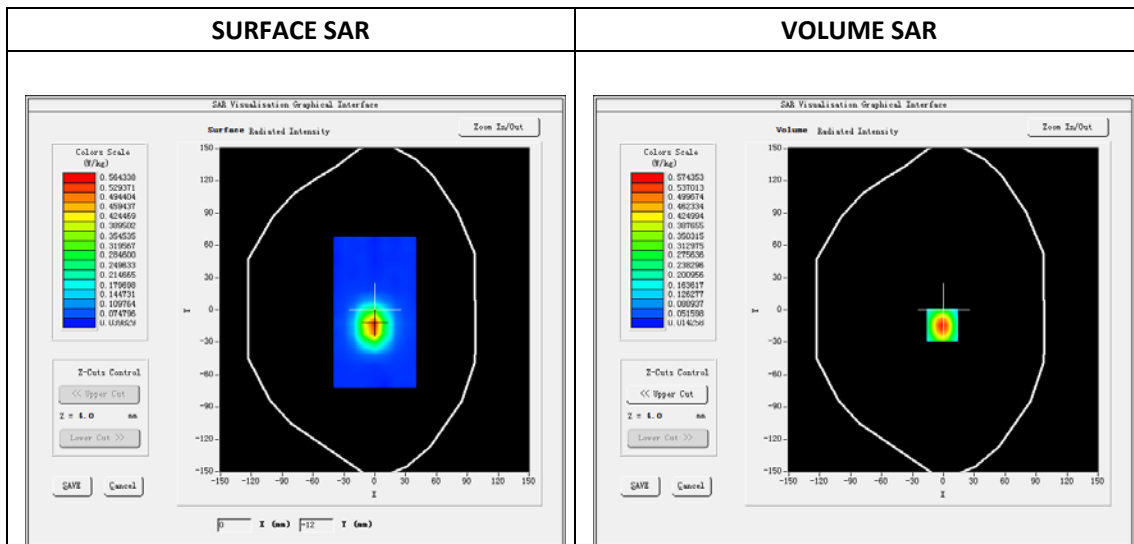
A. Experimental conditions.

| | |
|-----------------|----------------------------|
| 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

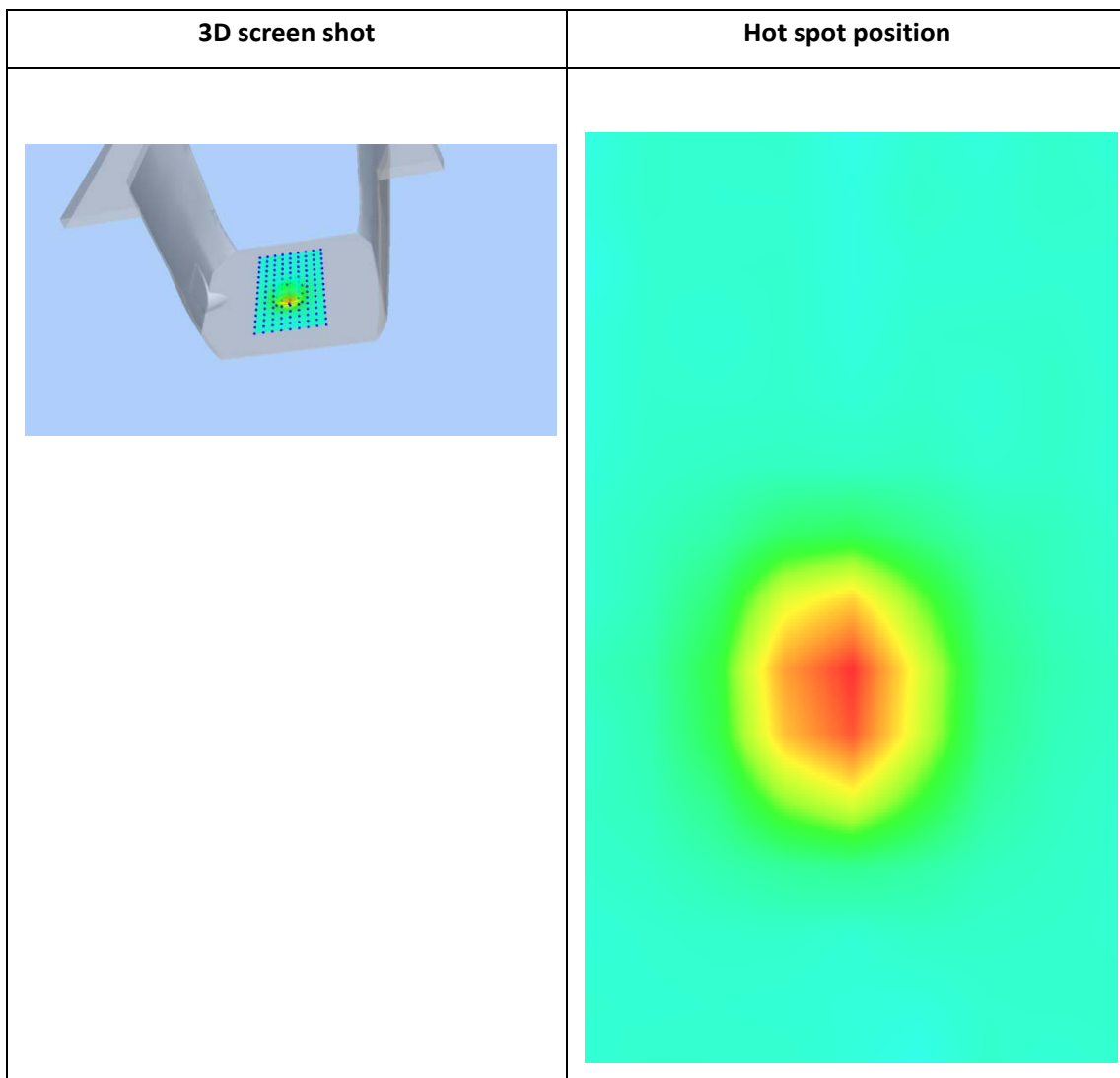
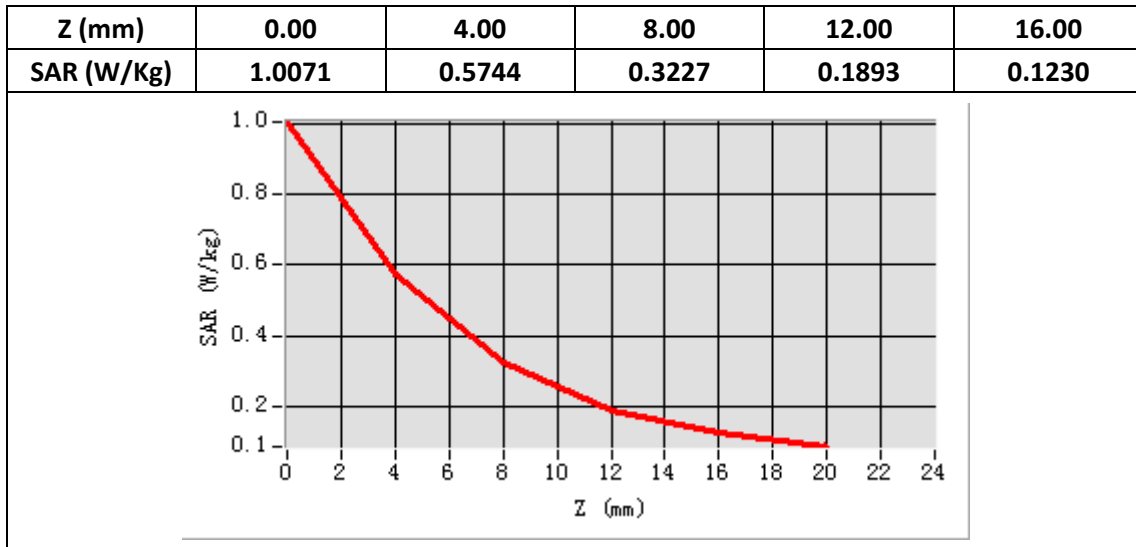
| | |
|-----------------------------------|-------------------------|
| E-Field Probe | SATIMO SN_27/15_EPG0261 |
| Frequency (MHz) | 2600 |
| Relative permittivity (real part) | 40.08 |
| Relative permittivity | 13.57 |
| Conductivity (S/m) | 1.96 |
| Power drift (%) | -2.07 |
| Ambient Temperature: | 22.2°C |
| Liquid Temperature: | 22.5°C |
| Crest factor: | 1:1 |
| ConvF: | 2.35 |



Maximum location: X=-1.00, Y=-14.00

SAR Peak: 1.01 W/kg

| | |
|----------------|----------|
| SAR 10g (W/Kg) | 0.254021 |
| SAR 1g (W/Kg) | 0.526778 |



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: 08/30/2019

Measurement duration: 22 minutes 14 seconds

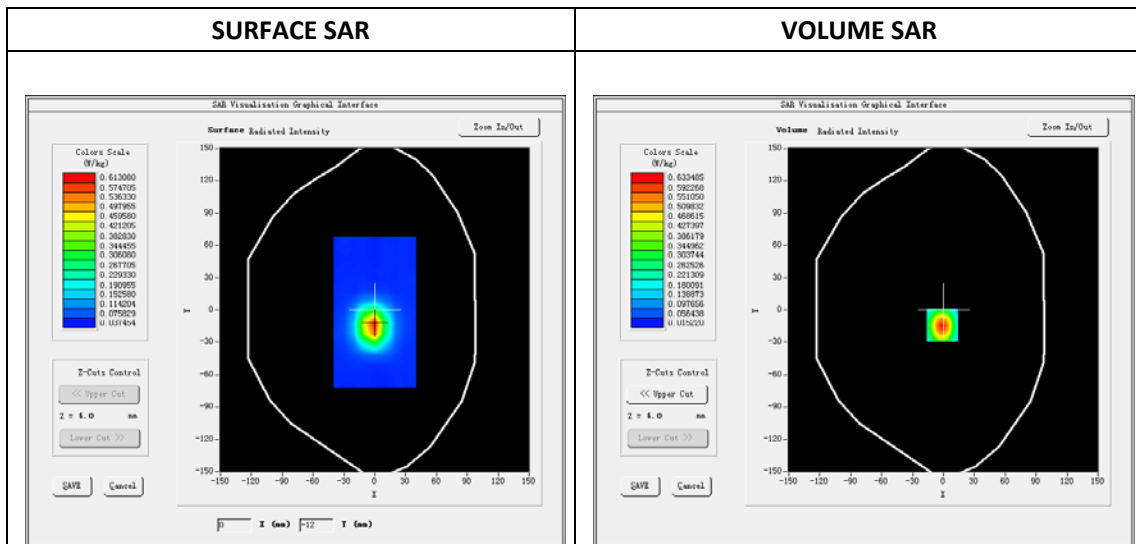
A. Experimental conditions.

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

B. SAR Measurement Results

Band SAR

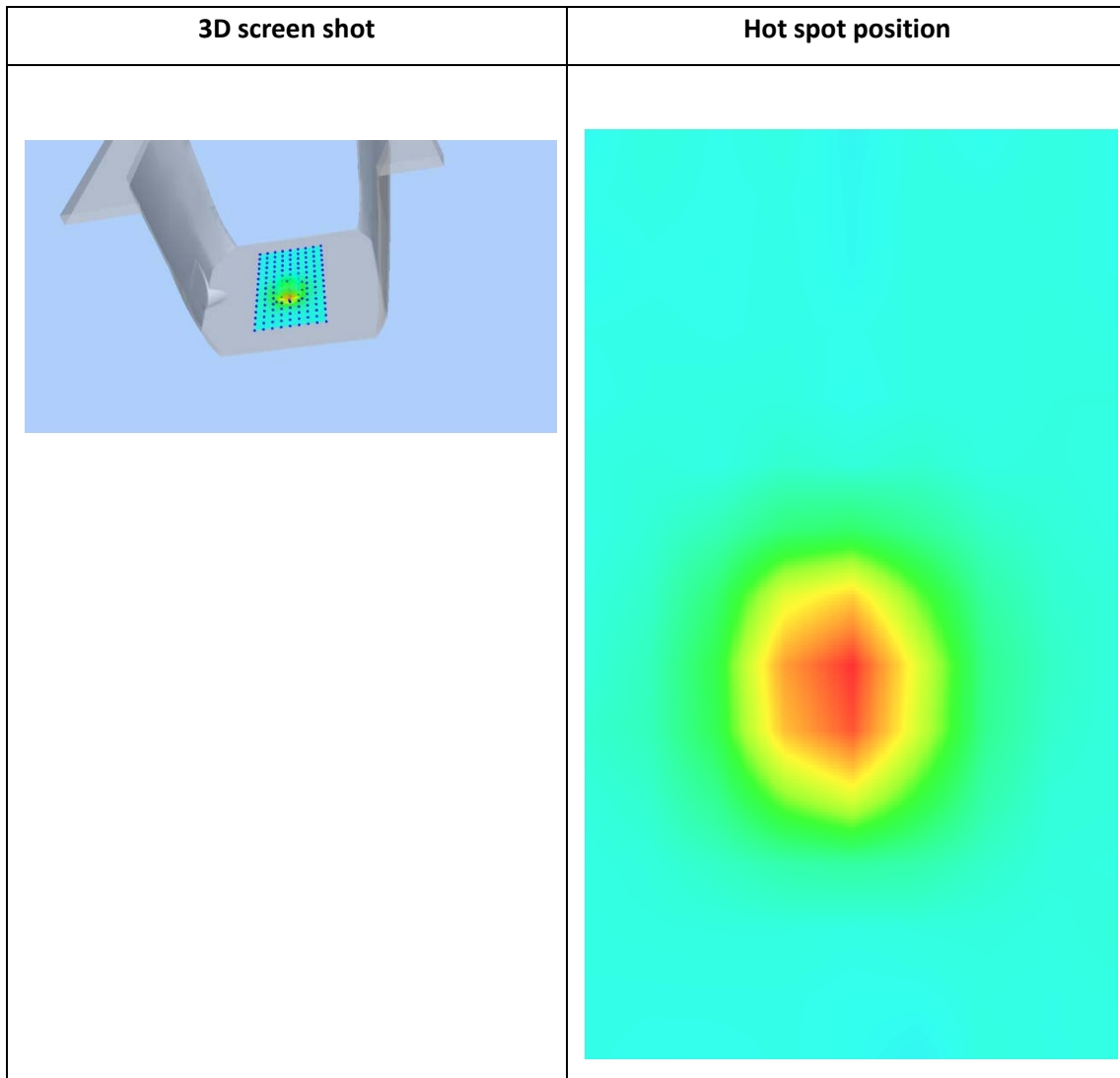
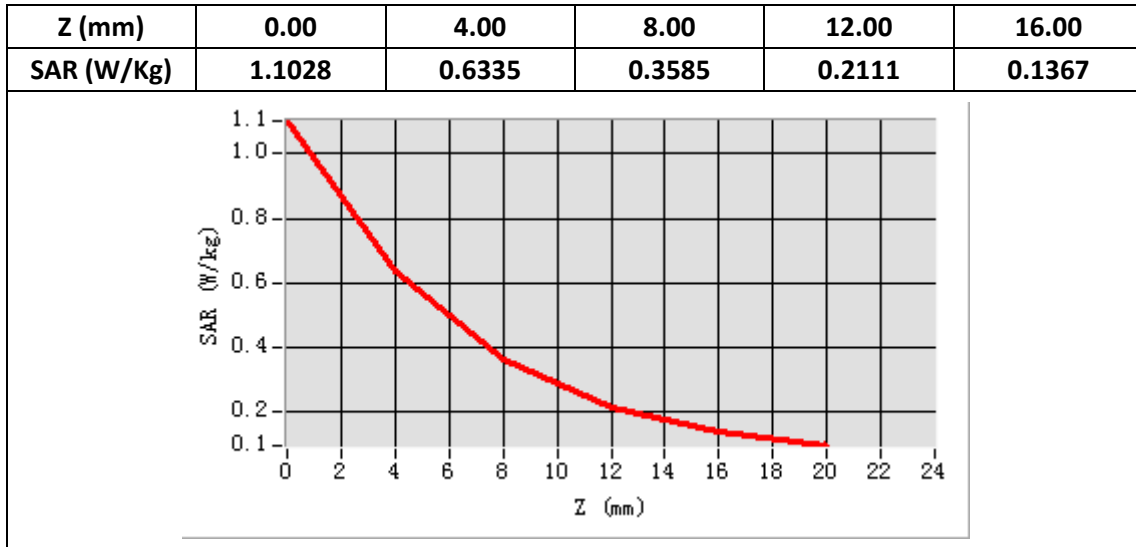
| | |
|-----------------------------------|-------------------------|
| E-Field Probe | SATIMO SN_27/15_EPG0261 |
| Frequency (MHz) | 2600 |
| Relative permittivity (real part) | 52.65 |
| Relative permittivity | 15.09 |
| Conductivity (S/m) | 2.18 |
| Power drift (%) | -2.03 |
| Ambient Temperature: | 22.2°C |
| Liquid Temperature: | 22.5°C |
| Crest factor: | 1:1 |
| ConvF: | 2.43 |



Maximum location: X=-1.00, Y=-14.00

SAR Peak: 1.10 W/kg

| | |
|-----------------------|----------|
| SAR 10g (W/Kg) | 0.276975 |
| SAR 1g (W/Kg) | 0.574112 |



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: 08/31/2019

Measurement duration: 22 minutes 22 seconds

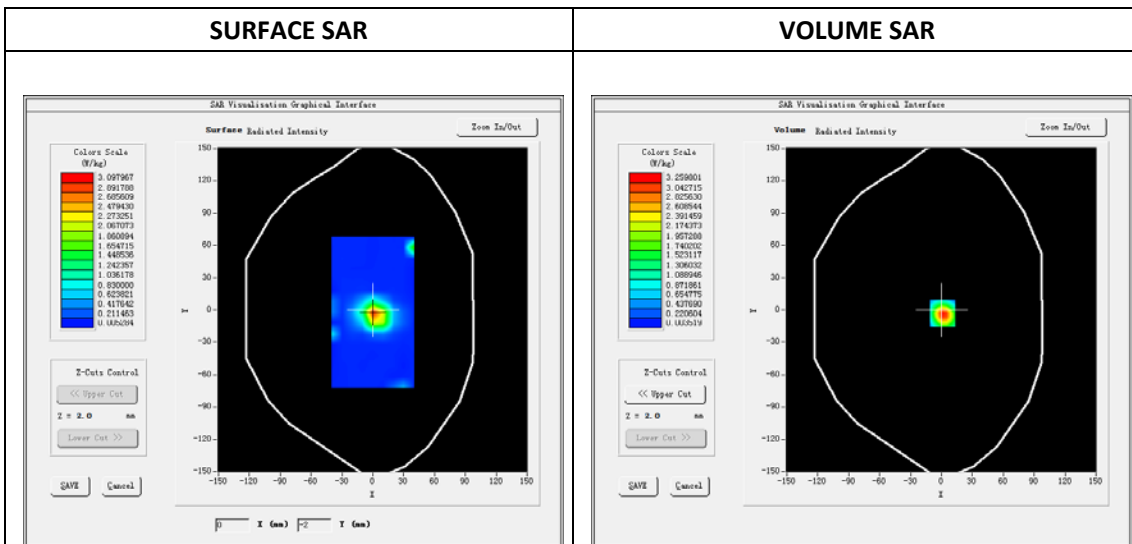
A. Experimental conditions.

| | |
|-----------------|----------------------------|
| Phantom File | dx=8mm dy=8mm |
| Phantom | 7x7x8,dx=4mm dy=4mm dz=2mm |
| Device Position | Dipole |
| Band | 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) | 36.66 |
| Relative permittivity | 16.20 |
| Conductivity (S/m) | 4.68 |
| Power drift (%) | -0.21 |
| Ambient Temperature: | 22.2°C |
| Liquid Temperature: | 22.5°C |
| Crest factor: | 1:1 |
| ConvF: | 2.15 |

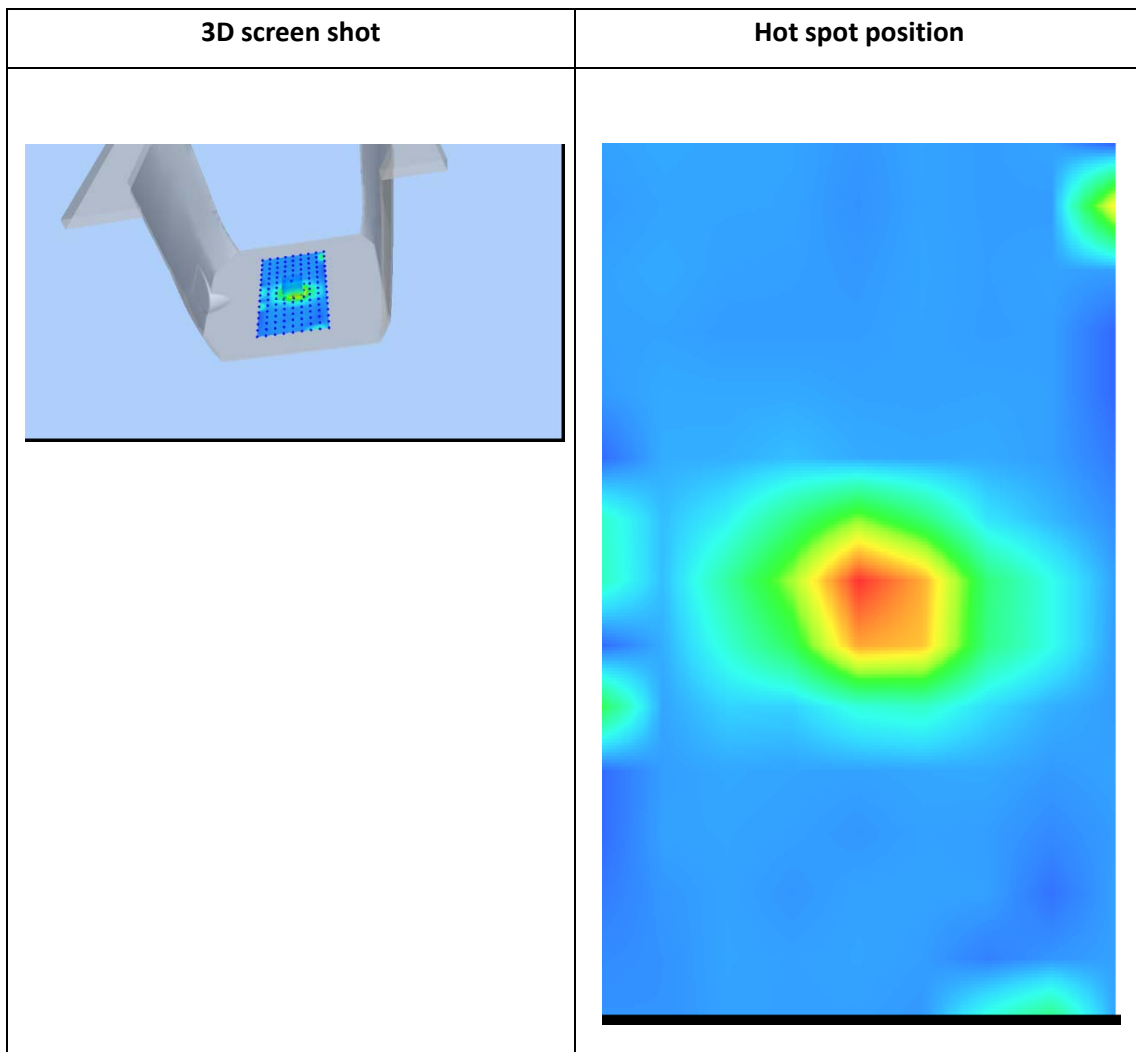
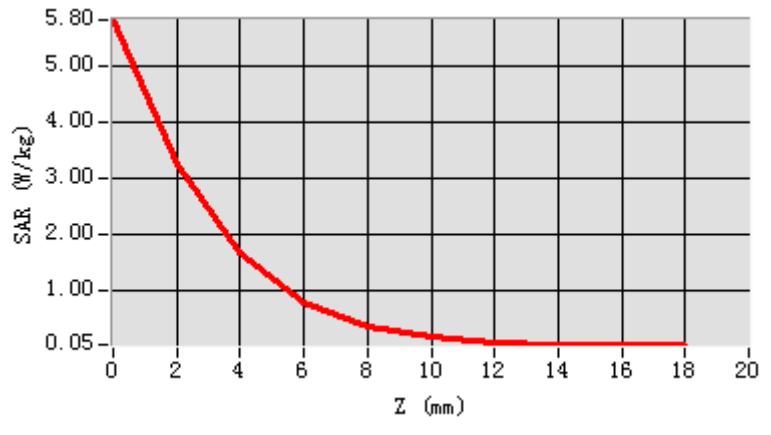


Maximum location: X=1.00, Y=-3.00

SAR Peak: 6.10W/kg

| | |
|----------------|----------|
| SAR 10g (W/Kg) | 0.538683 |
| SAR 1g (W/Kg) | 1.786498 |

| Z (mm) | 0.00 | 2.00 | 4.00 | 6.00 | 8.00 | 10.00 | 12.00 | 14.00 | 16.00 |
|------------|--------|--------|--------|--------|--------|--------|--------|--------|--------|
| SAR (W/Kg) | 5.8048 | 3.2598 | 1.6842 | 0.8056 | 0.3734 | 0.1759 | 0.0922 | 0.0599 | 0.0501 |



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: 08/31/2019

Measurement duration: 22 minutes 27 seconds

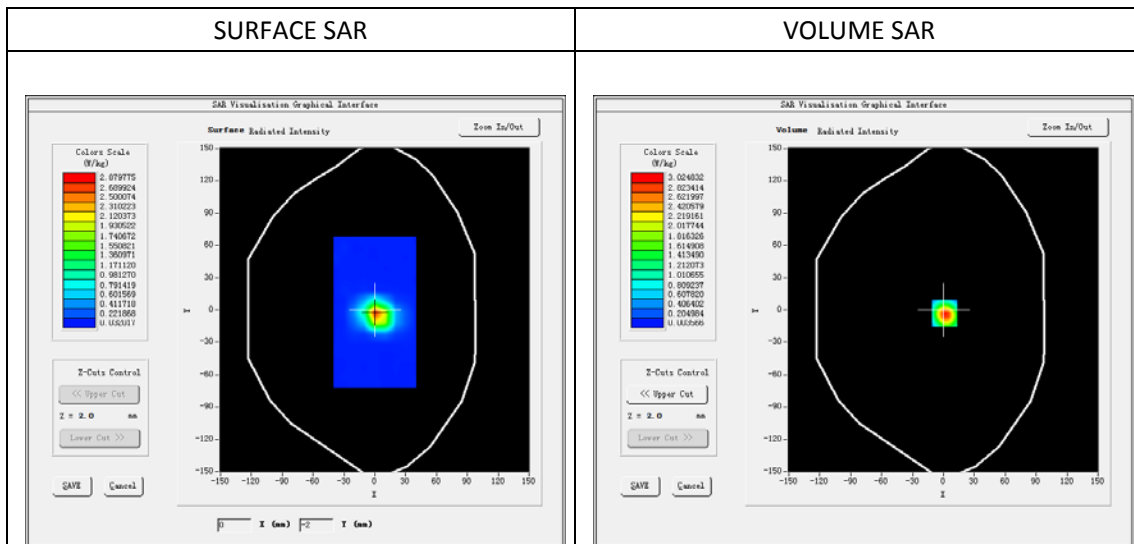
A. Experimental conditions.

| | |
|-----------------|----------------------------|
| 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) | 50.23 |
| Relative permittivity | 18.10 |
| Conductivity (S/m) | 5.23 |
| Power drift (%) | -0.72 |
| Ambient Temperature: | 22.2°C |
| Liquid Temperature: | 22.5°C |
| Crest factor: | 1:1 |
| ConvF: | 2.21 |

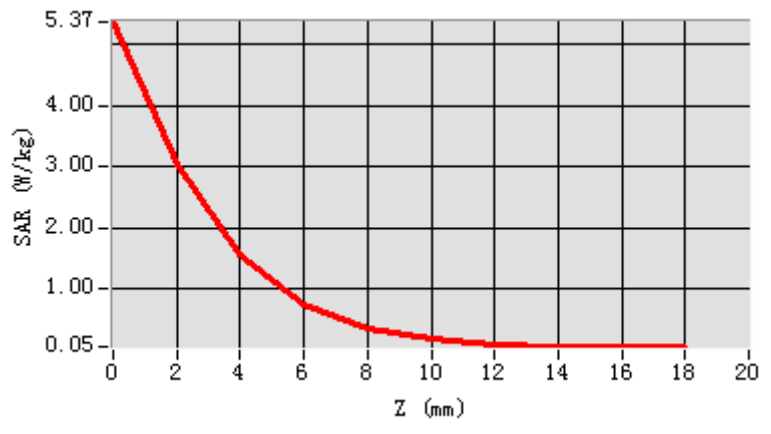


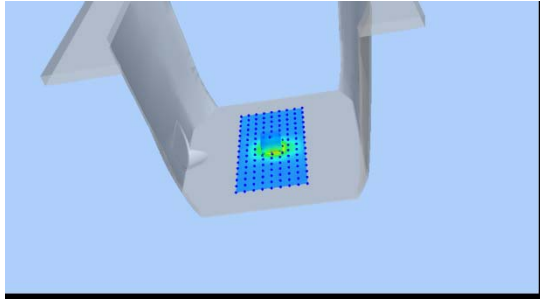
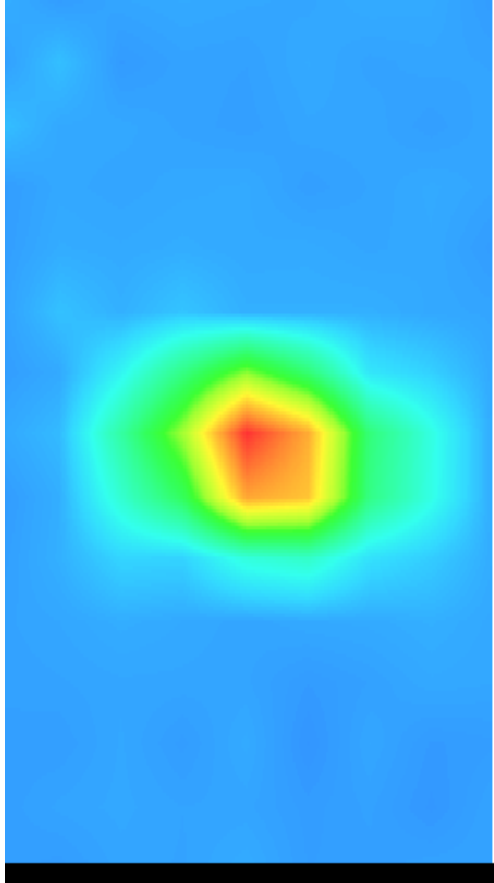
Maximum location: X=1.00, Y=-3.00

SAR Peak: 5.64 W/kg

| | |
|----------------|----------|
| SAR 10g (W/Kg) | 0.497649 |
| SAR 1g (W/Kg) | 1.637941 |

| Z (mm) | 0.00 | 2.00 | 4.00 | 6.00 | 8.00 | 10.00 | 12.00 | 14.00 | 16.00 |
|------------|--------|--------|--------|--------|--------|--------|--------|--------|--------|
| SAR (W/Kg) | 5.3732 | 3.0248 | 1.5690 | 0.7551 | 0.3532 | 0.1685 | 0.0896 | 0.0589 | 0.0495 |



| 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: 09/02/2019

Measurement duration: 22 minutes 26 seconds

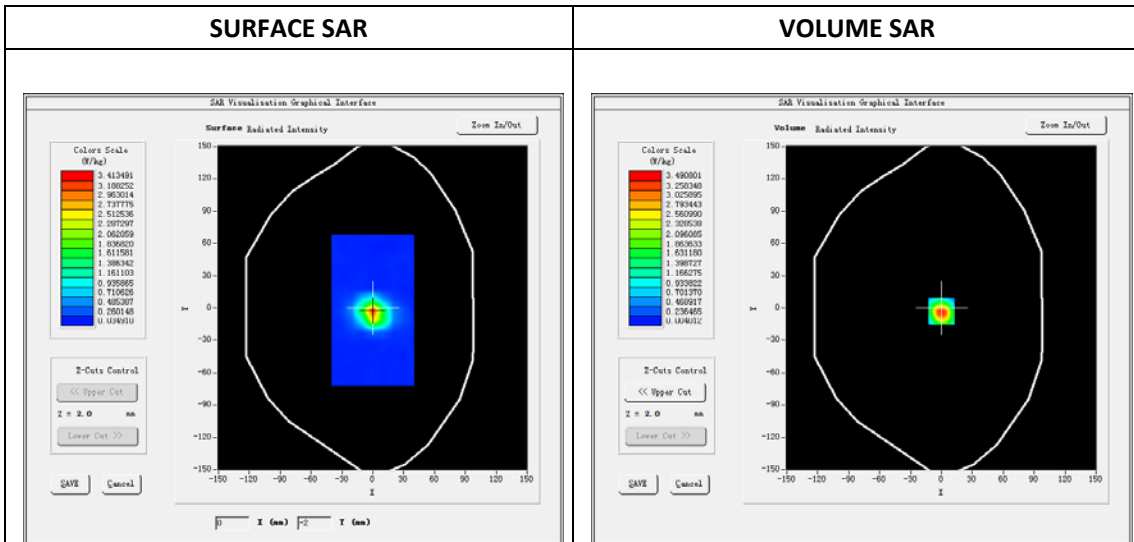
A. Experimental conditions.

| | |
|-----------------|----------------------------|
| Phantom File | dx=8mm dy=8mm |
| Phantom | 7x7x8,dx=4mm dy=4mm dz=2mm |
| Device Position | Dipole |
| Band | 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) | 35.84 |
| Relative permittivity | 16.42 |
| Conductivity (S/m) | 5.29 |
| Power drift (%) | -0.74 |
| Ambient Temperature: | 22.2°C |
| Liquid Temperature: | 22.5°C |
| Crest factor: | 1:1 |
| ConvF: | 2.19 |

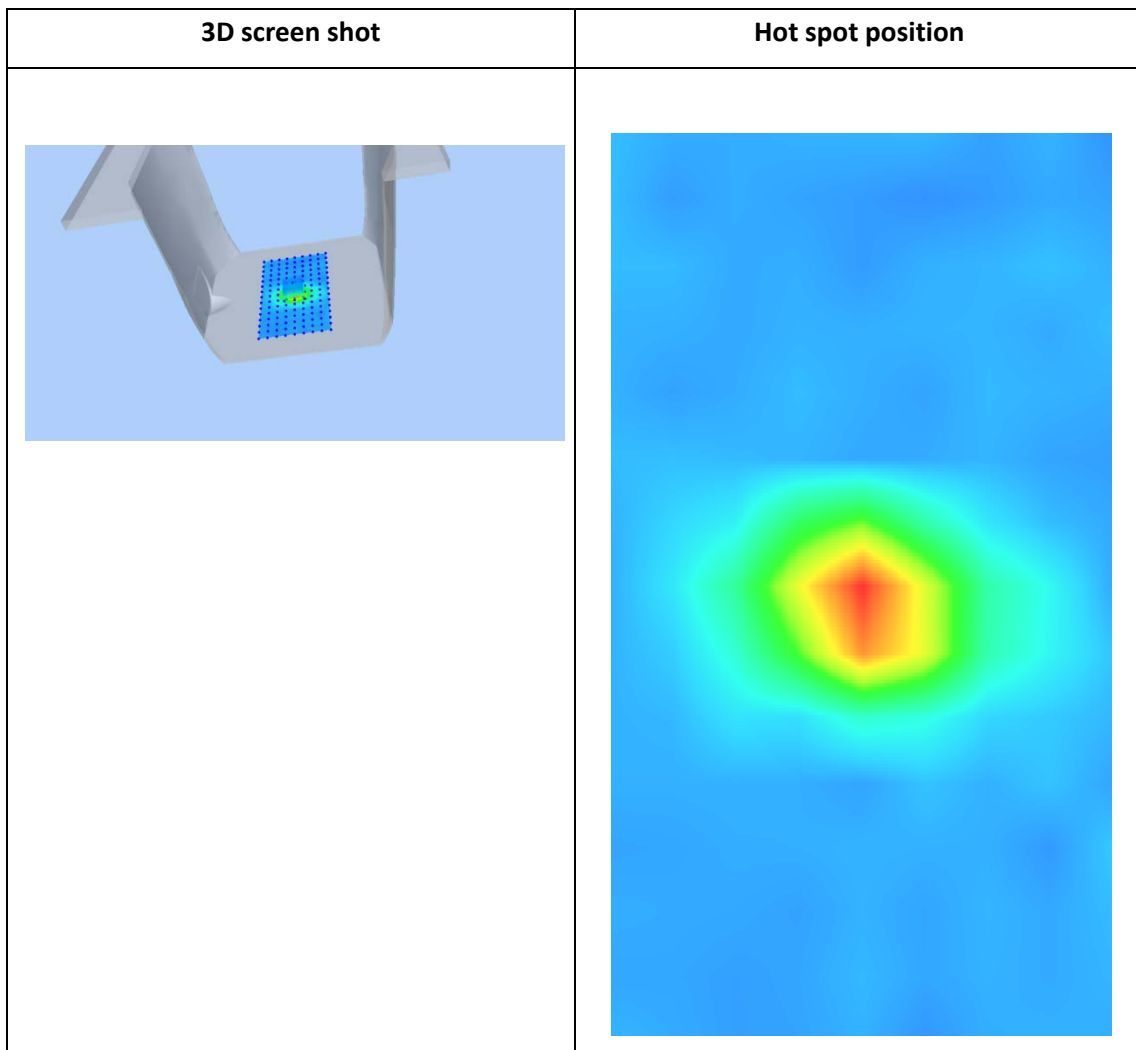
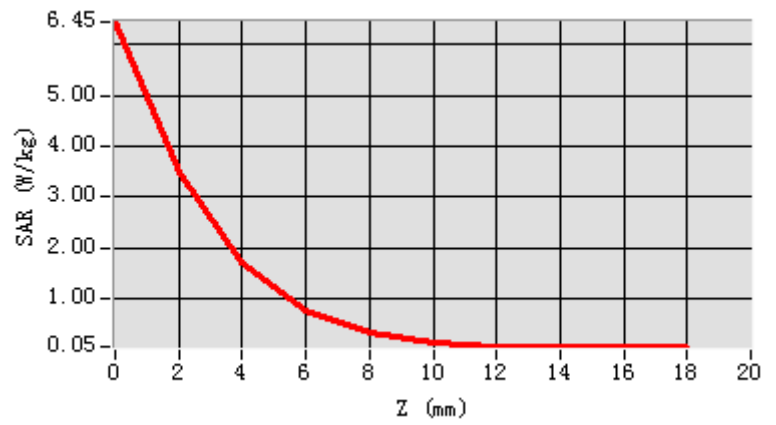


Maximum location: X=0.00, Y=-3.00

SAR Peak: 6.79 W/kg

| | |
|----------------|----------|
| SAR 10g (W/Kg) | 0.553951 |
| SAR 1g (W/Kg) | 1.858542 |

| Z (mm) | 0.00 | 2.00 | 4.00 | 6.00 | 8.00 | 10.00 | 12.00 | 14.00 | 16.00 |
|------------|--------|--------|--------|--------|--------|--------|--------|--------|--------|
| SAR (W/Kg) | 6.4452 | 3.4908 | 1.7030 | 0.7526 | 0.3175 | 0.1373 | 0.0711 | 0.0525 | 0.0559 |



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: 09/02/2019

Measurement duration: 22 minutes 21 seconds

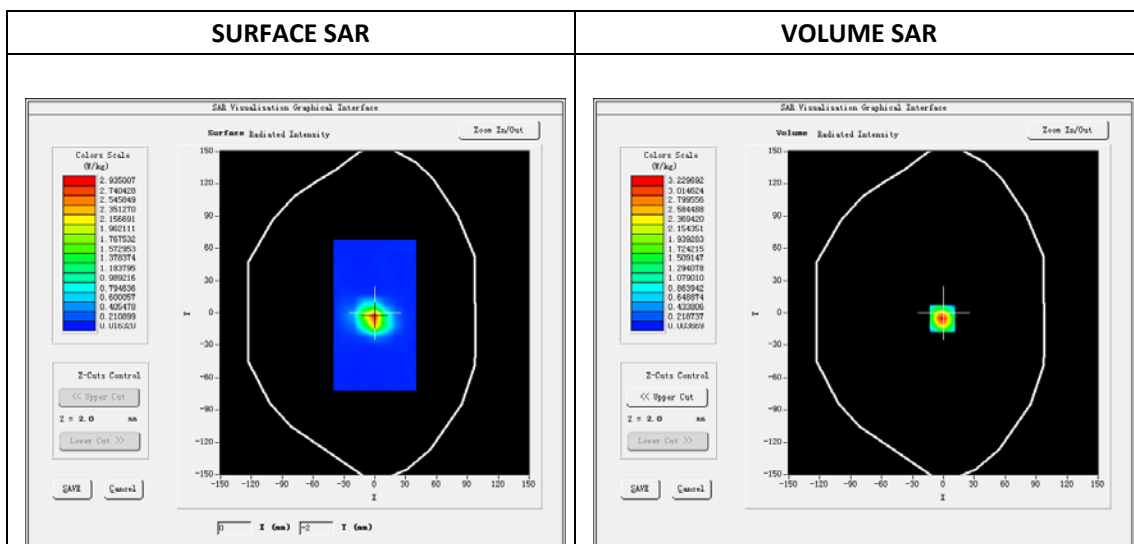
A. Experimental conditions.

| | |
|-----------------|----------------------------|
| 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) | 49.15 |
| Relative permittivity | 18.25 |
| Conductivity (S/m) | 5.88 |
| Power drift (%) | -0.67 |
| 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: 6.27 W/kg

| | |
|----------------|----------|
| SAR 10g (W/Kg) | 0.487687 |
| SAR 1g (W/Kg) | 1.675639 |

| Z (mm) | 0.00 | 2.00 | 4.00 | 6.00 | 8.00 | 10.00 | 12.00 | 14.00 | 16.00 |
|------------|--------|--------|--------|--------|--------|--------|--------|--------|--------|
| SAR (W/Kg) | 5.9953 | 3.2297 | 1.5609 | 0.6790 | 0.2790 | 0.1159 | 0.0572 | 0.0410 | 0.0438 |

